The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOLUME LIII CHICAGO, ILLINOIS, NOVEMBER 13, 1909 NUMBER 20

Original Articles

THE ADVANTAGE OF USING POTASSIUM IODID UNTIL WE HAVE SOMETHING BETTER *

GEORGE DOCK, M.D.
NEW ORLEANS

Potassium iodid is a striking example of the uncertainty, unrest and dissatisfaction so characteristic of therapeutics at the present time, and, as I have long had some convictions on the subject, I accepted with pleasure the invitation of the Section officers to present them at this meeting. There can be no objection to therapeutic unrest in the sense of an intelligent striving for something better than we have, with the actual and known base as a point of departure, and the problems of the future clearly stated. But in this instance, as in so many others in modern practical therapeutics, the movement is hampered by ignorance, obscurantism, fallacious statements as to the old, and questionable, if not actually misleading assertions as to the new.

I shall not speak of the theoretic knowledge of the subject, including, as it does, the knowledge of iodin and all its combinations. All that is accessible, and whether the theories are true or not does not enter largely into the present discussion. On the other hand, I wish to rely chiefly on clinical experiences, believing that we have here a good example of the use of empiricism as a guide to wider knowledge, as well as a refuge and comfort in time of trial. Potassium iodid has not been used as long as many other drugs, but it has, rightly or wrongly, been used to an enormous extent. That sort of experience, whether individual or collective, contains many sources of error, but in this particular case I think that the errors are adventitious, and I intend to speak about some phases of the subject from the empirical standpoint. Potassium iodid is used by many, probably by the majority of physicians, with a confidence equal to that of the Eddyite in a mystic formula, or of the disciple of the Emmanuel movement in the unconscious conviction of the omnipotence of the subliminal self. In strong contrast, we find others who may not be able to formulate definite reasons, but who are uncertain, and so much so as to keep them using substitutes, grasping at every innovation, but rarely making any addition either to their own or the common knowledge. It will perhaps be more useful to take up certain phases and discuss them.

A knowledge of how much of a remedy to give is essential in practical therapeutics, and potassium iodid is a frequent example of imperfect preparation as regards dosage. I do not hold teachers of materia medica or therapeutics responsible for this, because I think any one fit to practice medicine should be able to find out for himself what a little consideration will indicate to be an elementary fact. If there is one fact in therapeutics that is well founded it is that certain syphilitic lesions and their symptoms are frequently capable of relief by large doses of potassium iodid. It is almost as well established that to be called large in this sense the dose must be more than fifteen grains, and may be many times that; and yet one can often see syphilitics who have been warned that more than five or ten grains at a dose are dangerous. Anyone with such an obsession can hardly be likely to be a competent judge of the qualities of a new preparation.

One of the greatest difficulties of the beginner in medical practice is in regard to getting the drug, of which he knows so little, into the body of the patient, which he should, according to current criticisms of teachers of therapeutics, know so well. Even if he has been taught that the simplest way is the best, a line of medical exemplars and mentors and the columns of the leading medical journals suggest that complexity is imperative, and, as so often happens, increased knowledge leads quickly to doubt and uncertainty. My own experience has been useful to others, and may be again. As an undergraduate, I received an impression from my teacher of materia medica, to whom I have never ceased to be grateful for his instruction in dosage, that compound syrup of sarsaparilla was the only good vehicle for potassium iodid. On the other hand, the professor of surgery, about whom hung the glamor of being even a better physician than surgeon, and therefore far above the limitations of knowledge of the combined chairs of practice and therapeutics, held that cinnamon water was the only thing that would enable one to give iodid and to get the desired result. This sort of conflict is thought by many pedagogues to be undesirable, and some would prevent it by codifying information and delimiting the instruction of various teachers in a medical school. I have never thought so, but, on the contrary, was stimulated by the divergent views of two men of experience to try some other vehicles. Having accessible a considerable number of patients whose systems seemed to require iodid, and an obliging hospital pharmacist, I was able to learn that many other liquids in the Pharmacopeia were equally useful. Fortunately for me, about that time some one whom I cannot name, but to whom I owe grateful thanks, suggested giving the drug in a grain-to-the-drop solution in water, and administered in milk. Since then I have never used any other way when giving iodid for a marked effect, and I have not found any patient who could not take it, or who had any difficulty from the local effect on the stomach.

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Here I wish to digress in order to speak of the taste of medicines. When I was trying various vehicles for iodid, one of my desiderata was a less unpleasant taste. About the same time, however, I learned that a bad taste did not necessarily discourage patients from the use of medicine, a fact that is easy to confirm by tasting any of the popular remedies consumed so largely by people of all classes. So far as potassium iodid is concerned, however, milk does seem to prevent any complaint on the ground of unpalatability.

Not less certain am I of the freedom of the method from gastric irritation, and when the detail man begins his work by stating, as he often does: "Doctor, you always have trouble getting your patients to take iodid," I reply that I have many therapeutic troubles, but not that particular one. In order to show that small dosage is not the explanation of the absence of unpleasant symptoms, I can instance a non-syphilitic (as certainly as one can be of that) who took 80 grains (5.3 gm.) a day for more than a year, and of others who have taken as much as 500 grains (33.3 gm.) a day for many weeks. I am not advocating doses like the latter, but doses of 30 to 45 grains (2 to 3 gm.) three times a day often seem distinctly desirable.

The therapeutist often has another fear before him when he wishes to give iodid—that of iodism. This is most frequently seen in patients who are taking small doses, such as one or two grains at a time, and in the form of inflammatory lesions of the skin and mucous membranes. On the former, it depends largely on lack of cleanliness, and in the mucous membranes also it may be supposed that local infections play an important part. The iodin "drunk" and iodin mumps I have never seen. Edema of the glottis occurring in patients taking iodids should be borne in mind, but it is probable that in some of the reported cases there were other factors more important than iodid. In rare cases iodid causes symptoms as the result of idiosyncrasy, and some of the cases of iodid coryza, with headache, may well belong to that class. The more general symptoms spoken of even now as "iodism," with nervousness, emaciation, tachycardia, etc., are really not due to iodids or even iodin directly, but, as Lebert showed in 1855, are due to thyroid intoxication. They are more common in patients with hyperthyroidism, but do not occur invariably in patients with simple goiters, even when large quantities are ingested.

Having learned a satisfactory method of giving iodid, I have used the potassium salt almost exclusively. The tincture, or more frequently the compound solution, I use in certain goiters, but find the iodid of potassium better for the constitutional effect, or what local one we seem to get in certain diseases, such as bronchitis, certain asthmas, etc. Such a statement may suggest a certain narrowness, or lack of inquiry, but I think not justly. I have had many opportunities of seeing other preparations used, and used under conditions that made comparisons possible.

I have been especially interested in seeing sodium iodid tried. That salt should be better, for some reasons, than the potassium one. Not having seen a deleterious effect from the latter, I am not able to speak on that point, and believe that only minute investigations can settle the question. But I have been convinced that the sodium iodid has no decided advantage so far as taste and effect on the stomach are concerned. Hydriodic acid also has been disappointing.

Recently a number of preparations have been put on the market and advertised in the manner of such substances in general. The alleged advantages have to do with such qualities as organic combination, insolubility in the stomach, either rapid or slow absorption from the intestine, and certainty of action. Always the uselessness if not harmfulness of the inorganic salts is emphasized. But, as we can see in the case of iron, organic preparations are not necessarily superior, and in the present case it is interesting to see that actual pharmacologic facts in proof of this contention are conspicuous by their absence. I shall not enter into details of the various preparations and their recommendations, but urge that, while all may be worth investigating, those who wish to do so might begin by a careful and unprejudiced study of a simpler remedy and one that has much evidence in its favor.

Potassium iodid illustrates another common but unnecessary difficulty in practical therapeutics. It is usually named when incompatibilities are considered, and the student, in being warned against the dangers of combining iodid with some other preparation, is often led to think that some combination is necessary. Just why one should wish to combine iodid with strychnin, for instance, I cannot understand, and the simple rule to give a medicine singly if possible may here be followed with great advantage.

In conclusion I would say:

Potassium iodid can be taken easily and safely and in adequate quantities by most patients who need it.

Other preparations of iodin may prove to be better, but need to be tested, and recommendations based on the inferiority of potassium iodid should be looked on with suspicion.

124 Baronne Street.

BICHLORID OF MERCURY IN THE TREATMENT OF IDIOPATHIC MULTIPLE HEMORRHAGIC SARCOMA

WITH THE REPORT OF TWO CASES

H. J. F. WALLHAUSER, M.D.
Attending Dermatologist, Newark City Hospital and Dispensary; Consulting Dermatologist, Hospital of St. Barnabas, Babies Hospital, Beth Israel Hospital and Essex County Isolation Hospital
NEWARK, N. J.

So much has been written regarding this interesting condition that anything further from a clinical standpoint would seem superfluous; but, on account of the rapid disappearance of the growths under treatment by bichlorid of mercury, a few words regarding their malignancy will not be out of place.

From an experience of twenty-five cases, Kaposi gives an unfavorable prognosis. Extirpation, local or constitutional treatment having been of no avail in preventing the course of the disease to a fatal termination. Death followed metastasis to internal organs, accompanied by fever, bloody diarrhea and hemoptysis, the disease usually running a course of from four to eight years.

Since Kaposi's description appeared, over a hundred cases have been recorded, opinions as to malignancy, however, being generally less gloomy than Kaposi's. Deductions from reported cases show that the disease may disappear spontaneously or continue from fifteen to twenty-five years without causing any apparent constitutional symptoms. A few patients treated with arsenic, either by mouth or hypodermically, showed improvement, as reduction in swelling and disappearance of growths. A few recovered completely under this treat-

ment, while others did not respond at all. Local treatment has been limited mainly to the relief of pain by the application of soothing ointments, pastes, baths, compresses and bandages, the ulceration and necrosis receiving treatment according to surgical principles.

Recently the *x*-ray has been employed, and, while improvement was noticed after long exposures, treatment by this means has not been successful in causing disappearance of the growths. With the idea of adding to what has already been done, in advancing the treatment of this disease, the following cases are presented; and, since I am not unmindful of the danger of drawing positive conclusions from a limited number of cases, I hope that others will employ bichlorid of mercury or other antiseptics, and prove or disprove their worth.

CASE 1.—*Patient.*—A woman, aged 46, born in Hungary, came under observation, Oct. 22, 1904. About eight months previously a swelling had appeared on the outer side of the right foot, accompanied by considerable pain. This was followed, at irregular intervals, by the development of small tumors on various parts of the foot. The patient was apparently in good health except that she became tired easily, and complained of the severe pain accompanying the condition of the foot. The pain was greatly increased by exercise, so that the patient was compelled to remain in bed at times with the leg elevated, which afforded some relief.

Examination.—Beginning a little to the right of the median line and extending to the sole, the skin was hard and thickened, the surface uneven, tense and glistening, and of a peculiar purplish color with a bluish cast. Within the infiltrated area, and scattered on various parts of the foot were numerous tumors, in size varying from slight papular elevations to extensive tumor growths. The smaller were circular or oval in outline, of a bluish-black color. A few had ulcerated superficially, bleeding on the slightest touch. The larger growths were more firm, of a dirty gray color; the surfaces were uneven, nodular, and the color was somewhat darker than at the base. The growths overlapped the skin to an extent generally depending on the size of the growth, the smaller appearing as though simply constricted, while the larger extended over the skin about 4 mm. Sections of a small growth were made. The findings were similar to those in Case 2, reported below, regarding cellular infiltration, changes in the vessels, presence of blood pigment, etc.; but as the deeper corium was not included in the biopsy in Case 1, detailed description is omitted here. A description of the microscopic findings in Case 2, in which a better opportunity was afforded of obtaining material for examination, is given in the report of that case.

Treatment.—A solution of bichlorid of mercury, 1 to 2000, was applied to overcome the offensive odor of the discharge. After several weeks it was noticed that the larger tumors had perceptibly diminished, and several small pea-sized tumors had disappeared. The strength of the solution was then gradually increased to 1 to 500 and applied as wet compresses.

Course of Disease.—At the end of four months all growths had disappeared. Patient was seen two years later, at which time she was in good health, and no recurrence of the disease had taken place.

CASE 2.—*Patient.*—A widow, aged 50, native of the United States, was admitted to the Newark City Hospital, Jan. 20, 1905, with the following history: Six months previous to her admission, she scratched the dorsum of her right foot with a pin. The injury, though slight, healed very slowly; shortly afterward a small oval "blood-blister" appeared in the site of the scar. On account of the seemingly trivial nature of the condition nothing was done; several weeks later similar growths appeared on various parts of the foot, accompanied by severe pain and swelling. The patient's family physician, thinking that the growths were of a warty nature, removed several with a pair of scissors and cauterized the base, but they recurred and others gradually appeared, until the entire sole and dorsum of the foot were involved, at the time she came under observation.

Examination.—The clinical picture was somewhat different from that of Case 1, lacking the broad infiltrations, but the primary growths and their develpoment were unmistakably the same. Irregularly scattered over the dorsum and sole of the right foot were numerous firm tumors in various stages of development, varying from the size of a lentil to that of a walnut. The color of the smaller or beginning lesions was a dark purplish red, while those that had developed to bean size or larger had a grayish base and purplish brown or black surface, the dark color usually becoming more intense toward the apex of the growth. Located on the dorsum of the foot, several large irregularly oval, firm masses were developed by coalesence of a varying number of the primary growths, forming lobulated tumors which overlapped the skin; the surfaces were dotted with numerous dark oval rounded elevations, some of which had ulcerated superficially. Many of the tumors on reaching the size of a pea or larger, became depressed in the center or ulcerated superficially and gradually disappeared, leaving variously sized pigmented areas. In some locations the pigment disappeared, resulting in whitish spots, which were quite pronounced in contrast to the increased pigmentation of the surrounding skin.

Treatment.—All the larger masses, including those on the dorsum of the foot, were injected with cocain, and with a pair of scissors cut off down to the base. The bleeding, though considerable, was readily controlled by compresses and a tight bandage, which was allowed to remain several

Fig. 1.—Foot of Patient 2, showing multiple growths.

days. The foot was then enveloped in wet dressings of a 1 to 2000 solution of bichlorid of mercury. This treatment was continued for about six weeks, when all wounds had cicatrized and the smaller tumors were decreasing. The bichlorid solution was then gradually increased to 1 to 500, and applied as wet compresses of absorbent cotton and bandaged rather firmly. The dressings were changed once a day; after several weeks a slight dermatitis developed, which rapidly subsided under a soothing ointment. A milder solution of bichlorid was then substituted. At the end of six months, all lesions had disappeared, leaving only the increased pigmentation and a few areas of white slightly atrophic spots, the result of previous tumors, otherwise the skin appeared normal, and the patient was discharged apparently cured.

Course of Disease.—One year later the patient was admitted to the hospital for alcoholism, at which time there was no return of the disease. On Nov. 27, 1908, she was again admitted; she had lived a precarious life since leaving the hospital, and in consequence was greatly reduced in weight and general health. Physical examination was negative. Urine contained a slight trace of albumin with a few casts. The blood examination did not reveal anything abnormal, except a slight anemia. Examination of the previous site of the disease showed only the white areas and increased pigmentation surrounding the location of former lesions. On the middle third of the inner side of the thigh a new growth was present similar in general character to those removed but somewhat more extensive, measuring about 10 cm. in diameter. The thigh was swollen, stiff and very painful. The

slightest movement caused intense lancinating pains. According to the patient's statement this tumor had appeared about six months previous to her present admission. A plan of treatment to improve her general health was instituted, but she never rallied, gradually passing into a state of coma preceding death, which occurred on Dec. 23, 1908, about three years after the primary growth appeared.

Autopsy.—I am indebted to Dr. H. S. Martland, pathologist of the hospital, for the following brief synopsis of the autopsy findings. Body was that of a woman aged about 60, showing marked emaciation. Rigor mortis was present in the smaller joints, and there was marked postmortem lividity in the dependent portions of the body. The skin was very pale, and no superficial lymphatics were felt. The left leg presented at the thigh a clean, oval wound, about 8 by 12 cm. This represented the area from which the large growth had been removed. The leg presented, on its lower third and on the dorsum of the foot, numerous irregular, white areas, around the margin of these, there was an increase in pigment. The visceral lesions found were the following: Fatty infiltration and degeneration of the heart muscle, hypertrophy of the left ventricle, atheroma of the coronaries; senile emphysema, healed apical tuberculosis, anthracosis, generalized pulmonary edema; chronic interstitial splenitis; hyperplasia of the medullæ of adrenals; chronic interstitial nephritis (small granular kidney); atrophic gastritis, healed peptic ulcer; fatty infiltration of the pancreas; atrophy and stasis of liver (atrophia rubra); senile atrophy of the genital organs, causa mortis, chronic interstitial nephritis. There was no evidence of metastasis from the growth on the thigh.

Microscopic Examination.—The corium was densely infiltrated by variously shaped cells; a few were spindle-shaped, while a large majority appeared round or oval. They were usually more densely packed around the capillaries. The endothelium of the blood-vessels showed proliferative changes presenting several rows of nuclei. The walls were thickened and the lumen narrowed. Situated between the cells were vascular spaces; the smaller were rounded or oval and a single layer of endothelial cells could be seen lining the cavities. The larger were irregular in shape and seemed to be situated within the cellular infiltration without limiting membrane. In some locations interstitial hemorrhages had occurred between the cells. The fibrous tissue of the corium was pushed up against the epithelium, appearing as a narrow band, the papillæ having entirely disappeared. The changes in the epithelium consisted of a gradual thinning, resulting from pressure of the growing mass beneath. If a nodule were examined, nothing unusual in the epithelium was noticed, except a slight hyperkeratosis until about midway between the beginning of elevation and apex of growth, when the papillary processes disappeared and a gradual thinning of the rete occurred, the stratum cylindricum was maintained as a wavy line of cells that appeared normal. In some nodules the stratum cylindricum disappeared near the apex, and a few layers of flattened cells with indefinite nuclei remained, which gradually disappeared as the top of the growth was reached, resulting in coalescence. Section of a pigmented lesion, the result of involution, showed the papillæ reformed. The collaginous bundles in the lower part of the corium were separated by spaces running parallel with the fibers, but otherwise appeared normal. In the upper part of the corium immediately beneath the papillæ were seen large particles of blood pigment, and a few foci of cells with spindle-shaped nuclei indistinguishable

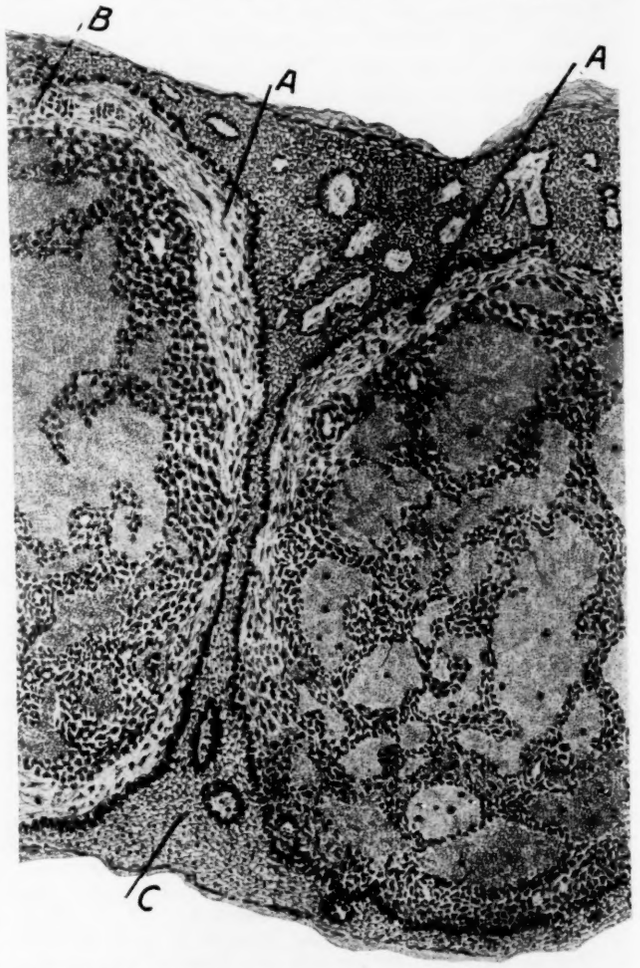


Fig. 3.—Microscopic section of multiple tumor, Case 2; A, fibrous tissue of corium pushed aside by cellular infiltration; B, particles of blood pigment; C, epithelium continued as narrow bands between separate foci of development.

from those of connective tissue. Some of the capillaries in the lower part of the corium were still widely diluted, while those of the upper part were about normal; a few disorganized vessels showing as narrow bands of nuclei were seen in the cellular foci.

Fig. 2.—Foot and leg of Patient 2, three years later, showing loss of pigment in location of previous tumors and infiltrated areas, also recurring growth on thigh.

superficial ulceration. The multiple growths due to a varying number of separate foci producing lobulated tumors showed the epithelium continued between the lobules and the fibrous tissue pushed to one side, appearing on section as narrow bands surrounding the cellulo-vascular infiltrations. The epithelium varied in thickness in different parts of the tumor, and in some locations had disappeared, developing actual

From a study of the histopathology, the exact nature of this condition still seems doubtful. It is quite generally accepted that it is of vessel origin, or that the vessels play an important part in its production. The findings in the two cases described would certainly bear out these deductions. The primary changes apparently take place in the deeper corium, as evidenced by proliferative changes in the vessel walls; the vessels, gradually losing resistance, become dilated, appearing on section as the oval blood-filled spaces with a single layer of lining cells. The endothelium gradually disappears in the larger spaces, resulting finally in interstitial hemorrhage.

Whether it is sarcomatous or granulomatous is also in doubt. Each extreme is claimed by many able observers, while a few, who have studied it more recently, place it in a position between the two with marked characteris-

tics of its own. While this seems to be evading the question, it is the best solution to the problem at the present time. That the constituents of the tumor may vary in different cases is more than probable, as there is so much difference regarding the form and character of the invading cell. Originally Kaposi stated that the type was mostly round or oval with a few of the spindle shape. More recently observers are inclined to accept the spindle cell only, explaining the difference in contour as due to their peculiar irregular arrangement in bundles, so that sections show various forms according to the angle at which the cell is viewed. However this may be, this question can not be regarded as settled for the entire group of cases described.

Clinically, we are about in the same uncertain position in judging the course of the disease. It is only by long observation, or by instituting treatment, that anything at all tangible is offered of value in giving a prognosis. The slow progress and recession of lesions responding to some plan of treatment as disappearance of tumor

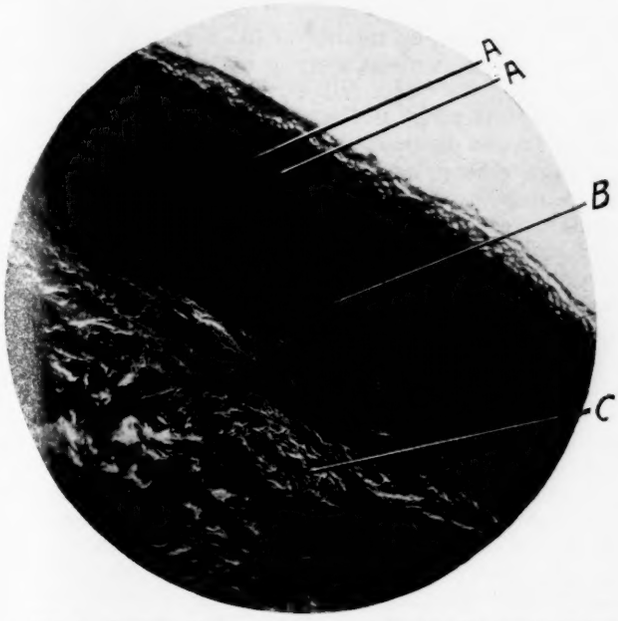


Fig. 4.—Section of pigmented area (Case 2), the result of involution of a small tumor; aa, reformed papillæ; b, pigment deposit in upper corium; c, separation of collagenous bundles.

growth would certainly point to a favorable issue, as against the more steady advance and early involvement of the glands seen in sarcoma. In other words, from a study of the reported cases, it is not necessarily a fatal disease, and it is reasonable to presume that a successful plan of treatment will ultimately be found.

I take this opportunity of thanking Dr. R. C. O'Crowley for the photographs of Case 2, and Dr. August A. Strasser for the drawing of the microscopic section of the multiple growth.

47 New Street.

Differentiating Sign with Kidney Tumors.—When the tumor is merely the displaced kidney, it may respond to light massage with merely albuminuria, and this differentiates a wandering kidney from tumefaction of other origin. A. Jeremitsch has recently reported in the Russian *Journal Akuscherstwa*, 1909, No. 6, 2 cases in which this "palpatory albuminuria," as it has been called, differentiated the cause of the disturbances and permitted effectual treatment. One patient was a young man, and catheterization of the ureter on the side of the tumor proved impossible. About 0.5 per thousand albumin persisted in the urine for ten hours after light massage, these findings recurring at three applications of the test.

ELECTRIC SLEEP

AN EXPERIMENTAL AND CLINICAL STUDY *

DUDLEY TAIT, M.D.
Director of the Laboratories of Experimental Research
AND
RAYMOND RUSS, M.D.
Instructor in Surgery, University of California
SAN FRANCISCO

In the numerous electric experiments on the brain that followed the epoch-making discoveries of Fritch and Hitzig relative to the excitability of the brain, the electric current was invariably applied to the surface of the brain within the trephined skull; it is to Professor Leduc, of Nantes, that we must give credit for having first demonstrated the passage of electric currents through the unopened skull. As early as 1893 W. F. Hutchinson stated that induced current vibrations of extreme rapidity possessed anesthetic properties, but his experimental and clinical findings were far from convincing, although the idea seems to have met with acceptance in some circles. Leduc, in experiments performed in 1902, again called attention to the subject, having, as he stated, produced "instantaneously and without pain complete inhibition of the cerebral centers, leaving the respiratory and circulatory centers intact, thus causing a condition characterized by the loss of voluntary movements and the presence of general anesthesia." To this condition, strongly suggestive of drug narcosis and demonstrably of central origin, Leduc gave the name "electric sleep."

The greater part of our observations were made with the apparatus perfected by Gaiffe, of Paris, in 1908, an apparatus vastly superior in accuracy and safety to any

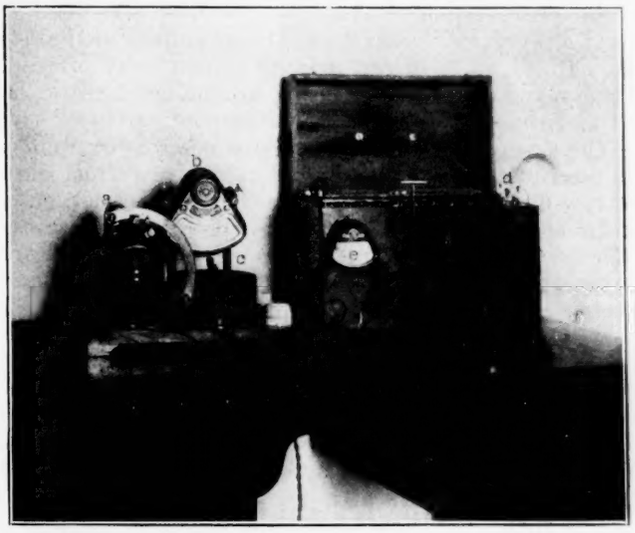


Fig. 1.—Apparatus made by Gaiffe of Paris, 1908; a, wheel interrupter with calibrated scale above it; b, speed indicator; c, rheostat for motor; d, 40-cell galvanic battery; e, milliampère-meter; f, MacLagan wire rheostat.

of the crude instruments used by previous experimenters. It consists essentially of a system for rapidly interrupting a current of low tension flowing in one direction, measuring the number of such interruptions a minute and regulating the ratio of the current's active period to its passive period (Fig. 1). This is accomplished by a wheel interrupter, a principle which has for

* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

* From the Laboratories of Experimental Research, Medical Department, University of California.

many years been employed in electric work. This wheel is revolved very rapidly by means of a motor connected with the indirect lighting current, the number of revolutions being controlled by a rheostat and registered by a speed indicator. A careful examination of the structure of this wheel is important. It consists essentially of four segments, each being insulated from its neighbor. Opposite segments are connected by conducting wires. On the brass rim of these segments play two brushes, carefully adjusted, which deliver to and receive the current from the interrupter. When these brushes are directly opposite each other—that is, 180° apart—there will be four slight interruptions to each complete revolution of the wheel, each interruption occurring as a new segment presents itself. Our half-circle is divided into one hundred parts, and these are calibrated on a scale above the wheel. One of the brushes is fixed, while the other can be moved at will over this arc. Thus, if the movable brush is set at ten on the scale, it means that, instead of the current passing for the whole time to every complete turn except for four slight interruptions, it is only passing for one-tenth of that time and that there is a passive time of nine-tenths for each segment. Thus, if our speed indicator shows a rate of revolutions of 1,500 turns a minute, we know that four times this many segments will pass a minute or 100 a second. If, now, our movable brush is set at ten, the actual time over which the current is active is 1/1000 of a second, each active period being followed by a passive period of 9/1000.

Over this brief time the current rises instantaneously to its maximum and as quickly falls, so that our interrupter delivers a known number of successive shocks a second, the length of time of each shock being regulated and also the period between shocks over which the current is not active. A current of perfectly steady flow is absolutely essential, and for this purpose we have used a forty-cell galvanic battery, also made by Gaiffe, of Paris. We have found the direct lighting current most unsatisfactory, and the indirect lighting current, employed with a transformer, also useless for our purpose.

The arrangement of the apparatus needs a few words of description. We have passed the current from our battery directly through a MacLagan wire rheostat, and it has answered our purpose very well. From the rheostat the positive current traverses the interrupter, then an accurate milliampère-meter and finally a terminal electrode. We have not employed a volt-meter and do not consider it essential. The current from the negative electrode passes directly to the patient; a little experience will show the superiority of interruption on the positive over that on the negative. The application of the electrodes to the subject is at times a matter of great difficulty, and it is here that we believe our technic is most faulty. It is essential to success that the resistance in circuit be as low as possible.

Two areas on the animal are denuded of hair; one large space on the head, just above and between the eyes, and the other, as large as the palm of the hand, on the back a little above the point where the large nerve trunks to the hind legs emerge from the spinal canal. If, in removing the hair, any abrasions result they should be immediately covered with collodion; otherwise they will receive the full force of the current. Our electrodes are thin copper discs to which the conductors are tightly fastened. The interrupter must revolve steadily and the milliampère-meter must show a constant registration on the closed circuit. Any sudden and rapid deviation in current strength may mean the death of the animal. The electrodes should be exactly in the median line; if the current is thrown transversely through the skull, vertigo will result. The brass rim of the wheel becomes worn by its constant contact with the brushes and it should be polished from time to time with emery paper. As the experiment progresses, the animal's resistance to the current decreases, so that the same effect may be produced with a lower voltage. A sudden break in the circuit will mean great shock to the subject, and for this reason we have always been careful to lower the potential slowly. The size of the electrodes varies with the animal employed; in rabbits they are about 3 cm. in diameter. We believe that it is important that the two electrodes should contain approximately the same surface area. The head electrode should always be applied just above and between the eyes.

In reporting our findings we shall consider separately the rabbit, the dog and finally man.

THE RABBIT

When the current is turned on, the rabbit generally shows signs of surprise, and, as the potential increases, a variable degree of excitability is noticeable, as in ether narcosis, followed by rigidity of the neck and tremor of the limbs; then, without a cry or movement, or the least sign of pain, the rabbit falls on its side in the condition previously described as electric sleep. The eye reflexes are the first to disappear; the pupils are unchanged; the cutaneous reflexes are highly exaggerated, especially in the rear limbs. As the experiment continues, these cutaneous reflexes may disappear over the path of the current, but always remain marked in the rear limbs. The animal remains limp and senseless and can be pinched, pricked or cut without any reaction on its part; if the experiment has been carefully conducted the rabbit will awake immediately as soon as the circuit is opened without showing any after-effects.

There is always some slight respiratory disturbance on raising the potential, and, if this be done suddenly, the rabbit will fall into a heap, the diaphragm become rigid, the thorax immobile, respiration cease and a generalized tremor occur. Habitually, breathing is soon resumed and, like the cardiac pulsations, remains regular during the remainder of the experiment, although the tremor persists until the proper conditions are fulfilled. The latter brusque method of inducing sleep is occasionally fatal, owing to the fact that no two animals react alike to a given dose of electricity.

THE DOG

The phenomena in the dog differ considerably from those in the rabbit. Here we have found it best to use a head electrode the size of a dollar. Two rubber bands are attached to the edges of this head piece and these terminate in long tapes. A thin layer of modeling clay, quite wet, is placed on the shaved surface just above the eyes, and over this the electrode, which is connected with the negative, is placed and held in position by crossing the tapes under the jaw and tying them securely at the back of the neck. The positive electrode is applied over wet cotton and is held tightly in place by an Esmarch bandage. As the current increases, the facial muscles contract, the animal lies down or falls on the side, fecal and urinary incontinence ensue and generalized tremor occurs. This agitation generally subsides as the current continues and, if our application is correct and our wheel is running steadily, the current may be pushed to loss of eye reflex.

The constancy of spasticity and respiratory inhibition caused several (Tuffier, Brewer) to abandon the use of

this current in canine surgery as originally advocated by Dr. Louise Robinovitch. We have succeeded, however, in totally eliminating these factors by reducing the resistance in circuit, perfecting the contacts and carefully varying the rate of interruptions. Under these conditions we have invariably avoided the fatalities so frequently noted by previous experimenters. We wish to emphasize one point which we have fully demonstrated. In the dog, unlike the rabbit, there is a complete analgesia over the whole body when a comparatively small amount of current, two or three milliampères, is employed. This is well away from the danger-zone and at this stage any operative interference may be done without the animal experiencing pain. We have repeatedly tested this by cutting down on the large nerve trunks and clamping them with hemostatic forceps, believing this to be the supreme test for analgesia. Of course, a little more current is required here than for the skin incision. If the experiment has been properly conducted, recovery will be immediate, no effect from the application remaining. During the entire experiment, with or without operation, the dog is conscious of its surroundings, the eyes remaining open, the sense of hearing intact.

MAN

Sensations.—We have applied the Leduc current centrally twenty-four times in man, making our first experiments on ourselves. In this work the negative electrode, measuring 11.5 by 4.5 cm., is applied over moist modeling clay just above the eyes and the positive electrode over wet cotton to the nape of the neck. A few tests with large and small positive electrodes applied over the thorax and abdomen showed their danger early in our work, for respiratory failure due to contraction of the diaphragm and chest wall quickly resulted. We have confined the current to five and one-half milliampères without producing loss of eye reflex. The sensation, as we have tried it on ourselves, is not at first disagreeable; a whirring through the brain as of a vibrator, but, as the amperage has been raised, the sensation through the head has become so painful that it has caused us to desist. Severe headache was experienced by one of us for twenty-four hours.

Analgesia.—We can report positive results as to analgesia in only one individual. In this case the results have been constant over many trials: A general superficial analgesia is quickly established even at a very low milliampèrage (1½ to 2 milliampères). We have tested this by sticking needles deeply into the arms and legs, even making an extensive skin incision for a phlegmon of the hand, and have made many experiments for ruling out the psychic factor, of which we were at first extremely suspicious. This we have been able to do to our entire satisfaction, adjusting our current so that the slightest increase we were capable of producing on our rheostat would mark a change from cutaneous sensibility to pain to insensibility.

Rapidity of Revolution.—During our experiments it was noted that the more rapid the revolutions of the wheel the less were the disagreeable sensations experienced. We were also impressed with a remark of Butcher in his comment on Leduc's work. "The inhibition is produced," he says, "by an electric stimulation of the nerve cells with a rhythm which is incompatible with their physiologic activity." Believing that the number of revolutions we had used were too low, we had constructed the cylinder interrupter shown in Figure 2. This interrupts the current eight times to each revolution, the period being regulated by setting the brush marked A at various points on the scale. It may be stated that this interrupter gave no better results and that with greater rapidity of revolution and increase of period the current tends to assume more and more the characteristics of the galvanic current.

Regional Anesthesia.—Leduc and Robinovitch claim to have obtained regional anesthesia with a mild current, one electrode being placed on a superficial sensory or mixed nerve (median, at the wrist), while the indifferent electrode is in contact with the body. Our numerous experiments in man show only a slight numbness in several subjects, absolutely nothing suggestive of analgesia in many others.

RESUSCITATION

An animal electrocuted by the Leduc current may be resuscitated by provoking rhythmic muscular contractions with the same current that caused the animal's apparent death. A low voltage of very short duration should be used and the normal respiratory rate followed. We have found this measure of great value in respiratory and cardiac disturbances and have repeatedly operated on dogs after having resuscitated them from what seemed certain death. Dr. Louise Robinovitch claims to have rendered this method of resuscitation absolutely safe and trustworthy, both in animals and in man, by increasing the voltage and applying the cathode to the upper dorsal region, thus excluding the central nervous system. Whether or not the current thus applied differs in effect from the well-known faradic application we are not prepared to state.

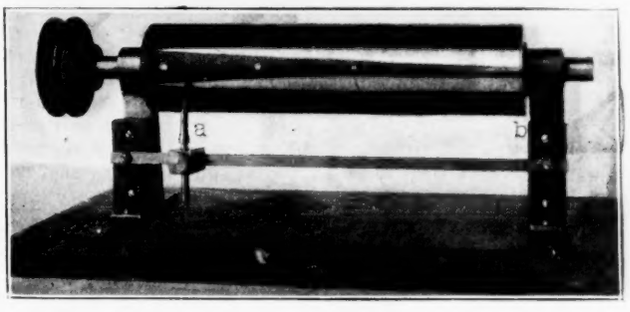


Fig. 2.—Authors' cylinder interrupter. Eight triangular steel plates are fastened to an insulating surface and turned to a perfect cylinder. The fixed brush is placed at b. In the position of the movable brush (a) the current is active over a period of 1 and passive over a period of 9.

CONCLUSIONS

According to the potential used and the position of the electrodes, the Leduc current may produce three different conditions, which appear in the following order:

1. Analgesia, superficial, deep, or both.
2. Respiratory and cardiac inhibition. Epilepsy.
3. Electrocution.

The close interrelation of these conditions constitutes the element of danger in Leduc's current.

From our experiments on rabbits we cannot agree with Leduc that the condition here described should be classed as sleep in the generally accepted sense, and we offer as arguments the following: the frequent rigidity and tremor in the limbs, the increase in blood-pressure, and the absence of pupillary contraction.

The multiplicity of factors involved in the application of the Leduc current easily accounts for the inconstancy of experimental results. Its practical value in canine or experimental surgery is consequently almost *nil;* and,

unless the technic is thoroughly understood, its use as an analgesic agent may not be devoid of danger. It will require a vast amount of investigation before we may hope to find in electricity a safe and reliable agent, capable of replacing chemical narcosis or reinforcing "Nature's soft nurse," sleep.

ABSTRACT OF DISCUSSION

DR. LOUISE G. ROBINOVITCH, New York: In repeating my experiments on electric anesthesia, Drs. Tait and Russ unfortunately used the wrong electric source, the wrong motor and the wrong interrupter. They used mercury batteries, whereas I pointed out, in 1905, the necessity of using accumulators of large capacity—200 amperes. The interrupter they used I discarded three years ago as a dangerous instrument; the only safe interrupter for this work is the one I have perfected in every detail. The motor they used is a dangerous motor for this work. The instrumental technic is fully presented in my latest papers on the subject. I was the first to apply electric anesthesia in laboratory surgery for major operations on dogs (exposing the carotid artery, laparotomy, etc.), and for the last three years I have utilized this method of anesthesia instead of ether and chloroform. In clinical work I utilize this current with gratifying results, in various neurologic and psychiatric affections. Two years ago I stated in my contribution to the "Reference Handbook of Medical Sciences" that a physician was not qualified to practice electric anesthesia on man unless he had had two years' daily experience in this work; let me mention now an additional requirement: at least some elementary knowledge of the fundamental principles of electricity.

On resuscitation of subjects in a condition of apparent death caused by chloroform, ether, electrocution, morphin, drowning, etc., experimentors in this work have been committing two errors: they included the victim's head in the circuit, and the current used was of dangerous quality and voltage. Professor Battelli uses the alternating current and high voltage. I exclude the head from the circuit and use a low potential, from 15 to 70 volts (for dogs), and currents less destructive to cellular life than is the alternating current. While experimenting on the cerebral circulation in epilepsy I saw that every closure of the circuit caused profound cerebral anemia at the moment of closure; hence, during resuscitation the medulla oblongata with the cardiac and respiratory centers should be excluded from the circuit during the rhythmic excitations practiced for the purpose of causing artificial respiration and blood pressure. Duration of closure is from 1/3 to 1/2 second; that of opening of circuit from 1 to 1/12 seconds; the cathode is at the back of the chest, the anode is at the loins. The artificial heart beats and respirations are regulated at will in amplitude by the voltage used. Strict economy should be observed or the useful and respiratory excitability may be exhausted prematurely. For hospital work I use the current applied for anesthesia. But for emergency resuscitation in the street, I use an induction coil of my own model made for this purpose. No other method of resuscitation presents the facility of causing artificial heart beats and respirations. I have revived a patient in profound syncope caused by chronic morphin poisoning, after fruitless efforts of my colleagues during a period of twenty minutes to revive the patient with the usual methods. My work on resuscitation after chloroform poisoning, electrocution, etc., will appear shortly; an abstract of it appeared last November.

DR. GEORGE EMERSON BREWER, New York: I did not intend to speak of electric anesthesia because the limited experimental work I have done in that direction has been unsatisfactory, but I agree largely with the work of Drs. Tait and Russ. The method was tried in the experimental laboratory of the College of Physicians and Surgeons two years ago for several months. It was found that in a very large number of cases in which we applied this treatment to dogs, the results were, first, a period of excitement; second, a period of muscular spasm; third, often complete surgical anesthesia; and in a certain number of cases death. The period of excitement seemed to depend on the resistance of the animal to the current. Two dogs of the same weight reacted differently to the current applied in exactly the same manner. We were led to believe that there is a very decided difference of resistance in dogs of the same weight. However, this may or may not be true, but without going into the details of the experiments, in which we lost many dogs and produced evidence of a good deal of suffering in others, I will say that we did produce profound surgical anesthesia in a certain number of cases, almost perfect surgical anesthesia, and we were able to perform a number of operations, such as thyroidectomy and enterostomy, but these cases were the exceptional ones. The great majority of the animals were either in a constant state of excitement or spasm, the anesthesia was imperfect, or the animal died. We concluded that whereas perfected methods and better technic might in the future give a current which would produce anesthesia and be of value, up to the present time our experiments were so unsatisfactory that we did not feel justified in applying the method to the human being.

ACHONDROPLASIA *

M. H. FUSSELL, M.D., ROBERT S. McCOMBS, M.D., GEORGE L. DE SCHWEINITZ, M.D., AND HENRY K. PANCOAST, M.D.

PHILADELPHIA.

Achondroplasia, a chondral dystrophy, has been known under the synonyms of "chondrodystrophia fetalis," "fetal rickets," "fetal cretinism" and "micromelia." Sommering first described it in 1791. Achondroplasia is of great antiquity. Pernet draws attention to the fact that at the British Museum there are a number of glazed earthenware images, which are unquestionably models of achondroplastic individuals. They were represented as dwarfs with big heads, crooked legs, very long arms, etc.

The pathology was not understood until Parrot differentiated achondroplasia from syphilis and rickets in 1878.

Innumerable writers have considered the subject since that time. Schirmer[1] gives 110 references. To this article and to the earlier article of Porak published in 1889, the reader is referred for a full exposition of the entire subject. It would appear to us that Porak's article and Schirmer's are the ones on which the entire literature of the subject is based, little new having been added since they wrote, though many cases have been reported. Of the articles in the British language, perhaps Rankins and Mackey's[2] article is the fullest and most satisfactory.

The characteristics of achondroplastic individuals are:

1.—Short stature of adult achondroplastics. The average height, according to Schirmer, is from 38 to 53 inches. The patients here reported have the following height:

Boy 1 year old	23	inches
Boy 16 years old	36½	inches
Woman 57 years old	48	inches
Skeleton	45	inches

2. Normal length of the trunk as compared with the short limbs (Fig. 1). The measurements in our cases are as follows:

	Height sitting	Length of legs.	Length of arms.
Boy 1 year	16	8	7
Boy 16 years	22½	15	10
Woman 57 years	33	20½	14½
Skeleton	27	18	12½

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909. Because of lack of space, the article is here abbreviated by the omission of part of the case reports, but the complete article appears in the Transactions of the Section and in the authors' reprints.

1. Schirmer: Centralbl. f. d. Grenzgeb. d. Med. u. Chir., 1907, No. 10.

2. Rankins and Mackey: Brit. Med. Jour., June 30, 1906.

3. Marked bowing of both upper and lower extremities. The humerus, the ulna and the radius, the femur and the tibia and fibula in all of our cases are remarkably bowed. The femurs are unusually straight in the skeleton (Fig. 2).

4. Unusual prominence of the points of attachment of the muscles on the bones of both upper and lower extremities. This is well seen in the radiographs, and in the photograph of the skeleton.

5. All the fingers are relatively of the same length. There is a peculiar separation of the second and third fingers at the second phalangeal joints, causing the fingers to spread out the so-called trident hand (Fig. 3). This may be seen in the accompanying illustrations, and by these measurements:

	First finger.	Second finger.	Third finger.	Fourth finger.
Boy 1 year	1½	1½	1½	1⅜
Boy 16 years	2⅛	2⅛	2⅛	1¾
Woman 57 years	3	3⅛	3⅛	2⅞
Skeleton	2½	2½	2¾	2½

It will be seen that the little finger in all of the four patients is slightly shorter than the others.

Fig. 1.—Achondroplastic. Woman with characteristic deformities; height 48 inches, age 57 years.

6. Depression of the base of the nose, "pug-nose." This was formerly thought to be due to congenital syphilis, but Virchow pointed out that it was due to a premature union of the bones at the base of the skull, or as it is put, a premature synostosis tribasilaris.

In the normal individual there is no bony union in this situation until early adult life, but in achondroplastics the union is complete at birth. These features are well shown in our photographs, and are particularly well marked in the comparative photographs of the skulls (Fig. 4).

7. The vault of the cranium is unusually large, as compared with the base of the skull and the face. The narrow base of the skull is shown by the measurements from mastoid to mastoid around the back of the head.

Child 1 year	4¾ inches
Boy 16 years	5½ inches
Woman 57 years	6 inches

8. The pelvis is small. Porak has cited many measurements of pelvis, and several instances in which the small

Fig. 2.—Skeleton of an achondroplastic; height 45 inches.

pelves required Cesarean section when achondroplastic women were pregnant. The measurements of our skeleton's pelvis are:

Internal conjugate	1½ inches
Transverse	3½ inches
Oblique	3 inches
Circumference of crest of ilia	30 inches

9. Lumbar lordosis is present without exception, as is the protuberant abdomen (Fig. 5).

10. The hair is soft, and abundant in the normal situations.

11. Normal intellect. These individuals when they reach adult life are often unusually brilliant. Our adult patient has

Fig. 3.—The "trident hands."

unusual mental development for a woman of her social standing. The infant appears normal. The boy of 16 has the mentality of a young child, but this is doubtless due to the hereditary lues.

12. The genitalia and sexual instincts are normal. The disparity in size between the penis and the body has often led to ludicrous mistakes by the uninitiated.

13. There is a tendency to superabundance of fat. This is marked in our two young patients, but is absent in the woman.

14. The deformity is congenital. In all the cases reported the condition was present at birth. In our own young child

it was observed soon. The deformities however, become more apparent as the individual grows. Many instances of premature infants are on record in which the lesions are well marked.

15. There is a marked decentralization of the body. The umbilicus is always below the middle, while in normal individuals over one year, it is above the middle point. Our measurements are as follows:

	Crown to umbilicus.	Umbilicus to soles of feet.
Boy 1 year	14 inches	9 inches
Boy 16 years	19½ inches	17 inches
Woman 57 years	25 inches	23 inches

One of us (McCombs) made measurements in sixteen children. In all the children (five) under one year the distance from the crown to the umbilicus was greater than from the umbilicus to the soles of the feet. From eleven of one year and over, the normal relations of greater length from umbilicus to soles obtained.

16. The tendency to hyprocephalus, to visceral weakness, and prolapse of the umbilical cord is apt to cause a premature birth and consequent death of the fetus. After birth at term the fetus is so handicapped with grave nervous diseases and lack of general nutrition that early death is common; hence relatively few achondroplastics reach adult life.

The pathology of the condition is now well understood. The primary condition is a disturbance of the cartilage formation, while the periosteal growth is not

Fig. 4.—Achondroplastic and normal skulls. The skull on the left shows the retraction at the base of the nose (due to premature synostosis of the tribasilaris) and the prognathism.

interrupted. There is a marked interference with the normal rows of cartilage cells. Hence bones laid down in membrane are not involved. Therefore the bones of the vault of the cranium and the bones of the trunk are normal.

Kauffmann has studied thirteen cases anatomically, and comes to the following conclusions:

The condition is the result of an interference in the growth of the cartilaginous portion of the skeleton. It is a chondral dystrophy; hence the name "chondrodystrophia fetalis." The interference in growth can begin at different periods of intrauterine life. The earlier the beginning of the disease, the shorter the bones remain. He distinguishes the following types:

1. Chondrodystrophia fetalis hypoplastica. In this the epiphyses are of normal size and consistency, and there is an interference in the growth of the cartilage cells.

2. A hyperplastic form, in which the epiphyses are somewhat lengthened, of variable consistence, and there is an increase in the cartilage cells.

3. Chondrodystrophia fetalis malacia, in which the intercellular substance is softened and rich in vessels.

All recent observers are agreed that the first or hypoplastic form is the most common.

Turner has found that at the junction of the epiphysis and the diaphysis the cartilage cells are abnormal in their size and form and arrangement, and that there is an absence of the primary bony areola, which is usual in the axis of the bone. The diaphysis, therefore, can not grow

There is an insertion of the periosteum between the epiphysis and the diaphysis, so that the ossification of the cartilage cells in the primary areola is hindered. The epiphysis and the diaphysis are sometimes ununited. The periosteum is thickened in points along the shaft so that these form bosses or exostoses along the shaft. The enlargement at the epiphyseal ends of

Fig. 5.—Side view of boy. Curvature of spine, shortness of the extremities and curvature of bones shown.

the long bones is due to a cup-like formation of the diaphysis around the epiphysis, the epiphysis itself not being enlarged. This is well shown by *x*-rays, autopsies and the skeleton herewith presented.

The etiology is obscure. The disease appears to be hereditary in certain instances, many cases being cited. In none of our cases can heredity play the slightest rôle.

It has been suggested that the condition is due to the disturbance of some internal secretion. So far, however, we are in the dark on this subject.

Syphilis was supposed to be a cause, but Parrot's work put this question at rest. While syphilis and achondroplasia may occur in the same individual, as in our Case 2, the syphilis is not the cause of the achon-

droplasia. A case is quoted in which two normal parents had an achondroplastic child. Both parents contracted syphilis after the birth of the achondroplastic child, and the wife then gave birth to a syphilitic child, which was free from achondroplasia.

DIFFERENTIAL DIAGNOSIS

The conditions with which achondroplasia can be confounded are rickets, cretinism, congenital syphilis and osteogenesis imperfecta. Achondroplasia is a congenital disease. The lesions are complete at birth. The deformities present are but exaggerated with the growth of the individual. Rickets is a postnatal disease. The lesions are entirely different in the two affections, and may at once be differentiated by the *x*-ray. In achondroplasia, the lesion is in the cartilage; the epiphyses are about normal; the enlargement at the ends of the bone is due to cup-like projections of the diaphyses. In rickets the enlargement at the ends of the bones is in the epiphysis itself. There are enlargements forming bosses at the muscular attachments in achondroplasia. These are absent in rickets. In achondroplasia the bones are hard. In rickets they are soft. The chest and trunk are normal in achondroplasia; they are affected in rickets. There is pug-nose in achondroplasia, which is absent in rickets. The vault is normal in achondroplasia and bossed in rickets. The bones affected in achondroplasia are those laid down in cartilage, while any of the bones may be affected in rickets. Achondroplasia is a permanent lesion. A patient with rickets may recover. Apert says, "An individual is born achondroplastic and remains achondroplastic, but an individual may become rachitic and recover."

The differential points from cretinism are the following: A cretin lacks intelligence. Achondroplastics are of normal or unusually bright intellect. The hair of cretins is scant and coarse; that of achondroplastics abundant and normal. The tongue of a cretin is protruded, and there is drooling; this is absent in achondroplastics.

The bone lesion in cretinism is simply an underdevelopment. This is well seen in our *x*-rays. Cretins recover under thyroid extract when treated early. This material has no effect on achondroplastics. Umbilical hernia is the rule in cretins, but absent in achondroplastics.

Achondroplasia may be mistaken for congenital syphilis. In syphilis the pug-nose is due to actual bone disease; in achondroplasia it is due to a premature union of the bones at the base of the skull.

The *x*-ray will always make the diagnosis, as is shown in our Case 2, in which both diseases exist in the same individual.

To quote Schirmer in regard to achondroplasia and osteogenesis imperfecta: "In spite of the analogous clinical symptoms, the anatomic substratum of the two affections is entirely different. Achondroplasia is permanently a defect in the cartilage, while osteogenesis imperfecta is a functional disturbance of the periosteum and the bony tissue."

TREATMENT

No known substance has yet been found to affect achondroplasia. Extract of thymus gland has been tried, but found wanting. Perhaps later experiments with some internal gland may be found of value, but, as the disease is practically complete at birth, there is little hope of this.

Courtin (quoted by Schirmer) attempted surgical interference with what he believes to be of some value, but this is also problematical.

OCULAR EXAMINATION BY DR. G. L. DE SCHWEINITZ

The eye condition observed by Dr. de Schweinitz in Case 2 is as follows:

Right Eye.—Vision equaled no light perception. Cornea nebulous down and in. Pupil round, unresponsive to all stimuli, 8 mm. in diameter. The ophthalmoscope revealed a nearly round, greenish-white atrophic disc, with a shallow atrophic excavation, but no displacement of the vessels toward the edge of the excavation. There were no signs of previous inflammation in and around the disc. The vessels were small, but apparently carried normally tinted blood. Throughout the eye-ground there were numerous yellowish areas about the size of a large pin-head, lying beneath the plane of the retinal vessels and apparently situated in the chorioid.

Left Eye.—Vision equaled doubtful light perception; that is, the boy occasionally turned his head toward a strong electric light. The pupil was slightly oval, 4 mm. in diameter, and unresponsive to stimuli. There were delicate strings of grayish lymph along its lower margin, indicating the presence of former inflammation in the iris, but there were no distinct synechiæ. The details of the fundus were seen only with difficulty, but the disc apparently was as atrophic as it was in the opposite eye.

The eyes were divergent, prominent, and their refraction myopic. There was no lack of rotation in any direction, and the associated movements were perfectly performed except in the act of convergence, which was entirely absent. There were no active inflammatory lesions in any of the coats of the eye, but at times the conjunctiva was congested, and for periods had presented the ordinary symptoms of catarrhal conjunctivitis. The tension of the ocular globe was normal. There was no anesthesia of the cornea or the conjunctiva.

Diagnosis.—This case is a peculiarly difficult one. The first impression is that of a cretin, but the soft skin and the lack of supraclavicular pads and the absence of umbilical hernia are against this diagnosis, while the pug-nose, the bowed extremities, the large cranial vault, the trident hand, support the diagnosis of achondroplasia, which is made certain by the *x*-ray. The mental condition of the patient can be readily accounted for by the hereditary lues. Schirmer in his article says that achondroplastics are without exception of normal mental caliber. Here unquestionably the achondroplasia has nothing whatever to do with the mental defect.

CHARACTERISTIC RADIOGRAPHIC FEATURES OF ACHONDROPLASIA, CRETINISM AND RICKETS.

BY HENRY K. PANCOAST, M.D.

ACHONDROPLASIA

The experience derived from *x*-ray examinations of three cases of achondroplasia for Dr. Fussell during the past three months, and the unusual opportunity thereby offered for a radiographic study, have convinced me that the radiograph is both an easy and a certain method of diagnosis in this condition, provided a few characteristic appearances corresponding to certain of the essential clinical and pathologic features of the disease are carefully observed. Case 2 was the first of the kind I had ever had the privilege of examining, or had ever seen in fact. It was referred with a provisional diagnosis of cretinsm, and yet so prominent were certain peculiar features observed in the pictures that I had no hesitation in suggesting an *x*-ray diagnosis of achondroplasia simply by identifying these striking appearances from a knowledge of the condition limited to its essential characteristics a based solely on their graphic descriptions.

An *x*-ray diagnosis can be readily made at any age, except possibly in infancy, before ossification is normally far advanced at the knee, upper end of the femur and both ends of the humerus. It is easiest during childhood, when these epiphyses are well developed, but again it requires more careful observation in adults, after these epiphyses have united, and there are to be found only the results of the abnormal processes of development in these regions. At any age, however, separate and distinctly typical features are to be observed in the appearances of the shafts of the long and the short long bones and also in the cancellous structure.

The more important characteristic radiographic appearances can be classified conveniently in three groups as follows:

A. EPIPHYSES OF THE LONG BONES

1. A moderate delay in the beginning of ossification.

2. A moderate delay in the progress of ossification, which tends later to an actual deficiency in development rather than to delayed union.

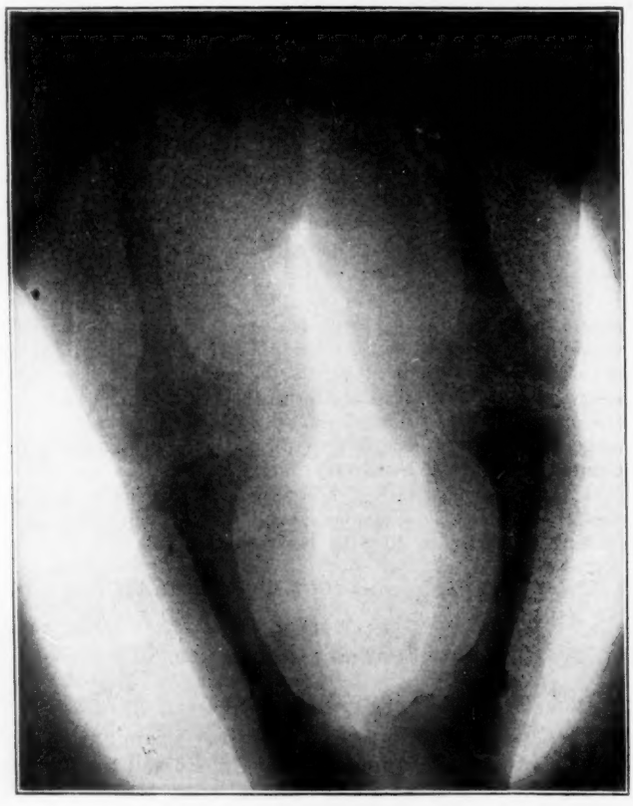


Fig. 6.—Radiograph of achondroplastic (Case 2).

3. Although actually deficient in development, the epiphyseal ends in children and fully ossified ends in adults are relatively far better developed than the shafts of the bones.

4. Deficient and irregular ossification of the ends of the diaphyses of many of the bones is very evident, especially in early childhood or infancy, and particularly at the knee.

5. The bones of the carpus and tarsus and the patella exhibit a corresponding delay in ossification and resulting deficiency in development.

6. The long bones appear to manifest a relatively greater degree of development in the immediate neighborhood of epiphyseal centers, whether their growth is largely dependent on the latter, as at the knee, or is entirely independent, as at the olecranon and lesser trochanter. In the latter instance this is manifest even before epiphyseal ossification begins.

B. SHAFTS OF THE LONG BONES

1. These are much shorter than in normal individuals of the same age. This is characteristic of all of the long and the short long bones of the extremities.

2. The same bones are relatively thick for their length.

3. There is a tendency toward the growth of exostoses from the long bones of the upper extremities, with rather symmetrical arrangement on the two sides, but such growths are noticeably absent in the lower extremities.

4. There is decided bowing of many of the long bones, especially the tibia, femur, and those of the forearm. In the two first mentioned this is most marked near or at the epiphyseal ends, and is there shown to be largely a result of deficient and irregular development and ossification (Fig. 6).

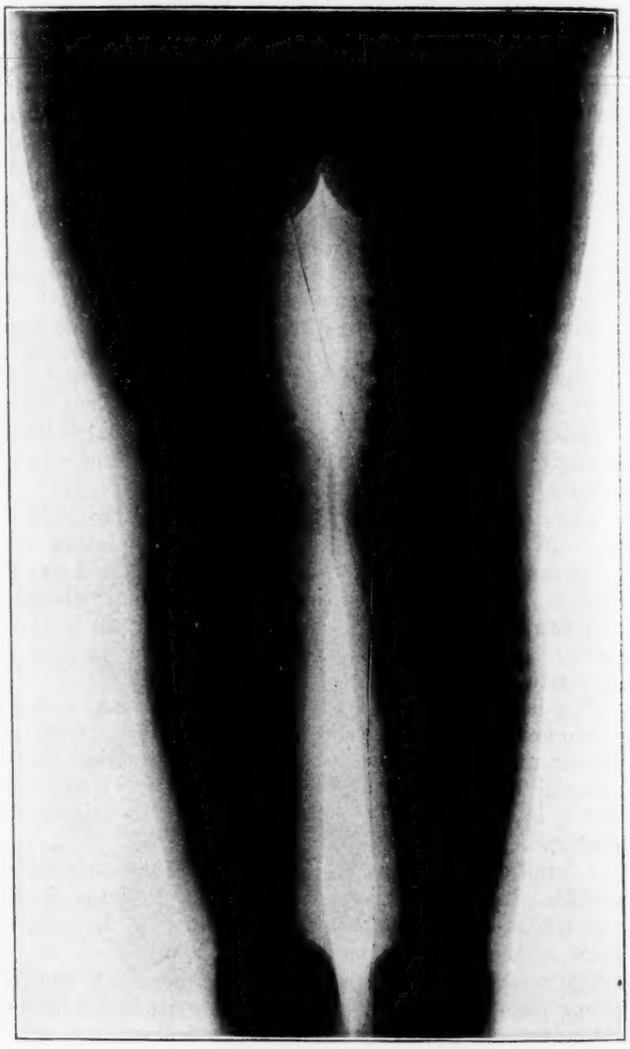


Fig. 7.—Radiograph of cretin.

5. All of the long and short long bones of the extremities present an abrupt expansion at the epiphyseal ends of the diaphyses and to a width corresponding to that of the epiphysis.

C. STRUCTURE OF THE BONES

1. There is a noticeable deficiency in development of the cancellous structure at the ends or epiphyses of the long bones and in those of the carpus and tarsus. It may be observed to best advantage perhaps in the os calcis. The appearance is characterized by relatively few walls and resulting large Haversian spaces. The walls are usually more noticeable or better developed in one general direction. The appearance is quite different from that of the rarefaction so frequently seen in such conditions as chronic arthritis, and in which the walls have been absorbed and rendered thin and the spaces correspondingly large, without reduction in the number of spaces.

2. The medullary canals of the relatively thick bones are apt to appear too wide and the compact walls too thin for the diameter of the bone.

CRETINISM

The *x*-ray diagnosis of this condition is by no means as easy or as certain as is the case in connection with achondroplasia, for the reason that there are fewer striking peculiarities and characteristic appearances to distinguish it from other conditions aside from achondroplasia. A similar and comparative summary of the case of cretinism follows:

A. EPIPHYSES OF THE LONG BONES

An exact comparison is difficult because of the difference in ages of this one patient and the other three, and the normal individual has been used as the basis of the comparative data in this condition. The epiphyses appear to be generally deficient in size and development, and ossification is correspondingly delayed.

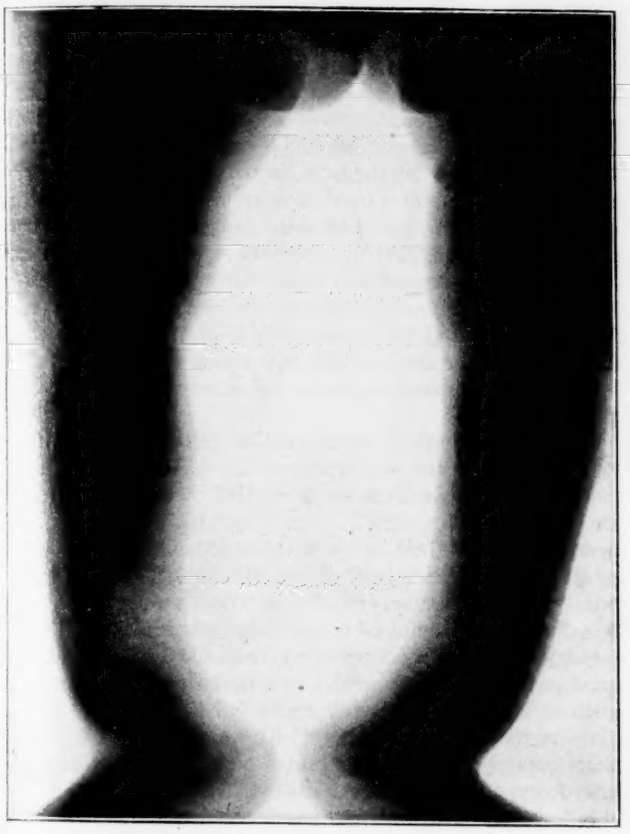


Fig. 8.—Radiograph of patient with rickets.

There is a very noticeable delay in ossification of the carpal bones. There is not the relatively greater degree of development in the immediate regions of epiphyseal centers which is so noticeable in achondroplasia, and the ends of the diaphyses do not expand abruptly (Fig. 7).

B. SHAFTS OF THE LONG BONES

The shafts are deficient in length actually, but not so relatively short as in achondroplasia. Moreover, the diameter or thickness is about right for the length. Exostoses are not present. Bowing is not a feature of importance in this condition.

C. STRUCTURE OF THE LONG BONES

The deficiency in the development of the cancellous structure so characteristic of achondroplasia is not a feature of this condition, in which this structure is not distinctly abnormal in appearance.

RICKETS

The radiograph of the lower extremities in a typical case of rickets and showing the characteristic appearances and deformities have been employed for the purpose of comparison.

A. EPIPHYSES OF THE LONG BONES

1. The extent of ossification does not indicate a delay in the process for the age of the individual, although the amount of calcification may be deficient.

2. Ossification and development of the epiphyses is far more extensive than in the extreme ends of the diaphyses, where the greatest resulting deformities exist, although calcification is deficient.

3. The ends of the ossified portions of the diaphyses are wider than the ossified centers in the epiphyses, indicating a wide zone of cartilage at the epiphyseal lines, which is typical of rickets.

4. The ends of the diaphyses show a decidedly irregular line of ossification resulting from temporary absorption of trabeculæ and failure of ossification, but the appearance is quite different from that seen in achondroplasia at the same age.

5. The carpal and tarsal bones and patella do not share in the process to any extent, and do not exhibit any delay in ossification or deficiency in development.

6. There is no apparent relative overdevelopment in the regions of epiphyseal centers as in achondroplasia, especially in such regions as the trochanters.

B. SHAFTS OF THE LONG BONES

1. The long bones of the lower extremity are not actually so much shorter than normal as in achondroplasia, though they may appear so because of resulting deformities. The short long bones are not affected noticeably.

2. Their thickness is not distinctly abnormal for their length.

3. There is no special tendency toward the growth of exostoses from the bones of the upper extremities.

4. Bowing is common in both conditions, and in itself is of no value in diagnosis. In achondroplasia it is largely developmental, while in rickets it is largely the result of deficient calcification.

5. The apparent expansion of the ends of the diaphyses presents an appearance somewhat similar to that seen in achondroplasia, but in reality it is quite different. The ends of the diaphyses are not ossified or the ossification is very irregular at the exact locality in which the abrupt expansion occurs in achondroplasia (Fig. 8).

C. STRUCTURE OF THE BONES

The trabeculæ of the concellous structure may become thinner or entirely disappear in rickets, but when visible the peculiar appearance seen in achondroplasia is not evident.

128 South Seventeenth Street.—1705 Walnut Street—2113 Chestnut Street.—4238 Pine Street.

ABSTRACT OF DISCUSSION

DR. R. S. MCCOMBS: Achondroplasia is not particularly rare, but it is not generally recognized, the majority of these patients being taken for rachitic dwarfs. The dwarfs of Philip the Second's court have been recognized as achondroplasiacs, and records of achondroplasiacs have appeared in history from the earliest times, very good representations having been discovered carved on the tablets of ancient Egypt. The literature in English on this subject is not exhaustive, the best articles having been written by Rankin and Mackey which appeared in the *British Medical Journal* during 1906-07. In a paper written about three years ago by Dr. D. J. Milton Miller, and published in the *Archives of Pediatrics*, can be found a very clear description of the histologic changes which prevents the normal growth of the cartilage cells. Dr. Fussell mentioned this. In regard to the treatment, all measures will probably fail, as the process, according to practically all observers, is complete at birth, the subsequent growth being

periosteal and not from the epiphysis. The most important points about these cases in particular are the three signs described by Dr. Pancoast, which have not been mentioned so far as we know, and that the boy is the only case we have been able to find on record in which there are evidences of hereditary lues. This disease has often been suggested as an etiologic factor, but never proved. The presence of the hereditary syphilis in this case is so apparently accidental that it is mentioned as being of interest, but of no importance in throwing light on the etiology.

DR. D. J. M. MILLER, Atlantic City: The affection is not uncommon. In my paper mentioned by Dr. McCombs, I spoke of the fact that I had seen several individuals on the streets of Philadelphia, who, although I had never examined them, bore all the earmarks of achondroplasia. Before I had read the account of the disease written by two Englishmen, whose names I do not recall, I thought one case that I had seen in Philadelphia was a case of fetal rickets, but their papers led me to recognize the condition. Another thing peculiar about these people is that they are always particularly intelligent, and in this respect achondroplasia differs from other forms of dwarfism. There is really no treatment, for this condition takes place in early fetal life. Those bones that ossify after birth are not affected; only those beginning in cartilage, during early fetal life, are the ones principally involved. When the child is born, the damage has been done.

DR. C. P. EMERSON, Clifton Springs, N. Y.: I have had opportunity to study this condition in more than one country, and I think it is pretty certain now that this is not always a disease of fetal life, but in some cases one of infancy, and that it may be developed as late as puberty. I have such a case now in Baltimore. Very often we see the statement made that the mother was so stupid that she did not recognize anything abnormal in her baby. I do not think that it is a case of stupidity on the part of the mother in this instance, but that the baby was probably normal. The patient to whom I refer had when a baby an acute illness, sweated at night, fretted and disliked to be touched. It was after this attack of illness that the condition apparently developed, and he is now a typical achondroplasiac. Recently a case was reported in which an infant had been pronounced normal at birth by both mother and grandmother. At least forty examinations had been made by different physicians, none of whom reported anything abnormal, and later achondroplasia occurred. Recently an Austrian has reported some investigations showing that this condition does develop after birth. It is possible that these are the children who show the abnormal mental development. To say that all achondroplasiacs are mentally deficient, is not true. It is true that the boys and girls with achondroplasia do not stay in school because they are made unhappy by their schoolmates, but those children who do go to school, or who have special tutors, develop well.

DR. L. T. ROYSTER, Norfolk: I have some pictures here that may be of interest. This child is now about 14. The pictures were taken when it was about 6½ years old. This case had its amusing side, for the accompanying hydrocephalus was such that when the child was on the floor and desired to get up it would first elevate its hips and then lift its head with its hands.

DR. G. L. DE SCHWEINITZ, Philadelphia: A complete report of the ocular symptoms of the case presented will be found in Dr. Fussell's paper. It is interesting to note that the patient shows a complete optic atrophy in both eyes due, not to the achondroplasia, but in all probability to an accompanying hereditary luetic condition.

DR. M. H. FUSSELL, Philadelphia: I made the distinct statement that achondroplasiacs are particularly bright mentally. They are not deficient mentally. I have particular knowledge of one individual who was always at the head of his classes. In regard to its development in infancy or at puberty, I believe all authorities are agreed that that is not a fact, and that once an achondroplasiac, always an achondroplasiac. There are many premature fetuses in which an examination has been made showing typical achondroplasia. I would suggest that when cases are reported as having developed in infancy that they are typical achondroplasiacs, but were not recognized early. After I had seen one case and failed to recognize it, it so impressed itself on me that in future I was more careful. As the children grow the deformity increases, and then it is easily noticed. It has been said that the treatment is *nil*, and so it is. The condition is complete at birth, and hence treatment would be useless. This little infant could not sit up at six months, but after massage he is now able to sit up and appears as a child of fourteen months should appear except for the shape of his limbs.

SOME REASONS WHY A SCHOOL OF TROPICAL MEDICINE SHOULD BE ESTABLISHED IN THE UNITED STATES

J. A. NYDEGGER, M.D.
Surgeon U. S. Public Health and Marine-Hospital Service
PITTSBURG, PA.

While secretary of the state for colonies the late Joseph Chamberlain, of England, with the object of affording instruction in tropical medicine to medical officers in the colonial service, caused to be established in London a special school of tropical medicine. Previous to its inception there was no adequate means whereby private practitioners or medical missionaries about to proceed to the tropics could acquire special information concerning, or obtain practical instruction in, an important section of the diseases they would be called on to treat. Had the school been confined to the training of those about to enter the colonial government service the scheme would have been bereft of much of its usefulness, and the natives and European residents in the colonies and dependencies would have suffered accordingly.

As I write these lines there lies before me the prospectus of the Liverpool School of Tropical Medicine and the syllabus of the London School of Tropical Medicine for the current year. The perusal of these respective booklets can not fail to convince one of the wisdom and foresight of the founders. These schools are now in their tenth and eleventh years of existence, respectively, and are in a flourishing condition, and are splendidly fulfilling the object for which they were established. This statement is fully verified by the fact that they have enrolled on their registers as students medical practitioners from many parts of the world, including a number of civilian practitioners from the United States and medical officers of our army and navy.

A decade and a half ago the United States was not a colonizing power. Immigration from countries where tropical diseases prevail was far less than now, and therefore the need of a school of tropical medicine, established on lines similar to those of England and Germany, was much less marked than at the present time. It may truthfully be stated that within the last decade this country has stepped out from her solitude to take the place which rightly belongs to her among the great peoples. By acquirement of her colonial dependencies, still more by the inevitable exigencies of her commerce, she has chosen (as she had no other choice) to make herself an interested party in all parts of the world. Our colonial dependencies now include the Territory of Hawaii, the Philippine Islands, Guam, Porto Rico, the Panama Canal Zone, and this country practically exercises a health protectorate over the seaports of the island of Cuba and of those of the Central American states. In all of the above-mentioned dependencies and countries tropical diseases prevail extensively. And, indeed, we do not have to go as far away as the tropics to find many of the so-called tropical diseases. In the Southern

states are found all varieties of malaria, amebic dysentery, hookworm disease, and others of the tropical diseases in goodly numbers. The present position, then, of the United States may be likened, in this particular respect, to that of England some years ago, when Mr. Chamberlain, in spite of opposition, established the nucleus of what is now known as the London School of Tropical Medicine.

Germany, about the same time as England, in order to provide a proper course of instructions in tropical diseases for her colonial medical officers and other civil practitioners, established a school similar to the London school; and this school has likewise supplied a much felt want by affording special instructions in diseases of the tropics. This school has also been well patronized and has proved highly successful in every way.

Our country, while occupying the front rank in all else that appertains to the advancement of medical knowledge and science, lags behind her sister countries of Europe in this particular. In taking a survey of this matter, the question arises, Why are we so tardy in recognizing the great importance to the profession at large of the United States in establishing a special school for the teaching of tropical diseases? Surely this can not be owing to the lack of interest we have in the diseases of the tropics, for as practitioners we are daily brought in contact with an ever-increasing number of these most interesting conditions. Again it can not be for the want of material, which is to be had in great variety. Again, we have available as teachers and instructors in such a school professional men of wide practical experience in these diseases, as also in the study and observation of them.

But this country has changed much in late years. It is a growing commercial power. The maritime trade of the United States with the countries situated to the southward and westward in the tropics is increasing by leaps and bounds, and is as yet only in its infancy. As the facilities for travel between our seaport cities and these countries become more improved and we are brought into closer touch with them, so will the travel to and from them increase proportionately, and therefore will expose an increased number of our people to the existing diseases of these countries. Our intercourse with tropical regions is rapidly growing. The great increase of immigration to the United States from these countries will bring the diseases fast enough.

The force of the above argument was convincingly demonstrated during and after the late Spanish-American war in Cuba, and especially since our occupation of the Philippines. Discharged and invalided soldiers returning from these respective countries to the United States scattered far and wide, and the burden of treating those ill fell chiefly on the general practitioner. For this reason alone, if for no other, every practicing physician in the United States should be as familiar with tropical diseases as he is with the more commonly prevalent ones which he is called on to treat every day.

The important discoveries that have been made in the past decade through the study of tropical diseases, and the great scientific as well as commercial value attached to them, have brought these diseases into a prominence heretofore unknown, before both the profession and the public. To enunciate but a few of these diseases would be, first and foremost, to mention the relation which the mosquito (*Stegomyia calopus*) bears to the transmission of yellow fever, as was announced to the world by Reed and Carroll; the cause of the deadly sleeping sickness (trypanosomiasis) of South Africa, and its transmission to man by the bite of the stinging fly, *Glossina palpalis*, so patiently worked out by Bruce; the etiology of dysentery and its differentiation into two varieties, the bacillary and the amebic; and the relation of the hookworm to the anemias of the tropics. Other instances similar to the above might be cited, but it is unnecessary to proceed further.

Our American people are fast becoming great travelers, for both pleasure and business, and are to be found in all accessible parts of the globe. For this reason also the subject of tropical medicine is every day growing of more importance to the general practitioner, whether his practice be in the city or in the country.

While England has two schools, and Germany and France one each, where the teaching of tropical medicine is made a specialty, the United States has not a single one. It is true that four or five medical schools give special instructions on tropical medicine during the term, but, as the subject is divided among the various departments of the schools, it always will lack the thoroughness and completeness which is so essential to success. These courses consist chiefly of a few optionally attended lectures. So far as I have been able to ascertain, attendance on these courses as provided in our medical schools is not compulsory. Again, the lectures are often given by instructors who have not seen tropical diseases or if so only to a limited extent, and who therefore could have but little, if any, interest in the subject, and whose lectures could not be conducive to the stimulation of the lively interest so necessary on the part of the student.

Within the past few years there has been organized the American Society of Tropical Medicine. Let us hope that the day is not far distant when there will be found everywhere throughout the United States branch societies of this organization, at which the practitioners of the country as well as of the city may attend, hear papers read, see and examine exhibited cases and enter into the discussions; all of which would be of incalculable benefit to them in the absence of a centrally located school where special instruction may be had on the subject. There is a well-equipped school of this kind in Manila, but it is too far away to be of any benefit to the general practitioner of the United States. The schools in England and Germany are much nearer home, but even these, owing to the cost of travel, etc., can be reached by only a limited number.

The army and navy medical schools and the Hygienic Laboratory of the Public Health and Marine-Hospital Service in Washington give courses in tropical medicine, but in all of these the subject of tropical medicine is only one of the subjects studied and not the main subject, and, therefore, they could not be called, as they at present exist, schools of tropical medicine. The courses given on the subject of tropical medicine are intended mainly for the instruction of the medical officers of the respective medical corps, and if they are available at all to the general practitioner, in the present limited condition of these schools, it would be possible for only a limited number to receive instruction. These medical corps, through their officers, have done and continue to do remarkable and important work in the field of tropical diseases. What is needed is a special school, whether under government control and support or otherwise maintained, where tropical medicine is taught solely and exclusively.

It might not seem amiss to advance the argument that the American Society of Tropical Medicine might well take up, along with the other closely allied work, the

cause of fostering and encouraging the speedy establishment of a school of tropical medicine in one of our large seaport cities. Of the cities that would be considered, New York would doubtless be the most practicable in point of location and desirability. This conclusion, it may be stated, is arrived at from several points of view. This city may truthfully be stated to have steamship and other communications with practically every seaport in the tropical and subtropical countries. The number of cases of tropical diseases seen in New York is much greater than one would suppose. A residence of about six years in and about New York convinces one of this fact. Within the past few months there were seen a number of cases of beriberi removed from one vessel in New York harbor. There were also seen in one hospital there (the United States Marine Hospital) several scores of cases of malarial fever, consisting of the tertian, quartan, estivoautumnal and pernicious types, a goodly number of cases of amebic dysentery, and several other rarer varieties of tropical diseases. The nearness of New York to the Southern states and its greatness as a business, industrial and social center make it admirably adapted to be the place of first choice.

When this school has been established, then and only then will all of our civil practitioners have placed at their disposal the means of obtaining thorough instruction in this most important branch of medicine. The demand for such a school is growing more pronounced each day. Let us, then, have a school of tropical medicine and satisfy this most worthy demand.

TRANSITORY URINARY FINDINGS ASSOCIATED WITH SOME DISEASES OF CHILDHOOD *

WALTER LESTER CARR, M.D.
NEW YORK

There are few practitioners of medicine who neglect acute changes that occur in the kidneys as complications or sequelæ of such diseases as scarlet fever, diphtheria, pneumonia, and acute arthritis. As the pathologic processes in these acute diseases are fairly definite, albumin and casts are easily detected on routine examination. Failure to watch the urine in such cases is unusual because text-books call attention to its importance and insist on the necessity of comparative analyses in making a prognosis.

There is, however, another class of diseases in which complications referable to the kidneys are less common and consequently more often neglected. This oversight may be, in part, because we have not had our attention directed to nephritic changes in the diseases referred to in this paper with any insistence as to their significance; or it may be that while the kidneys are diseased in some cases the urinary findings will be negative in a great many examinations. These negative results will no doubt be fewer when careful routine examinations are made in all diseases incident to childhood.

It may be well to premise by recalling to mind that the urine in early infancy is of low specific gravity (1004 to 1008), although the percentage of uric acid and urea is relatively high. Albumin and sugar may be found in the urine of apparently healthy infants, and the latter may be detected from time to time in the urine of babies fed on patented and oversweetened food. Hyaline casts and epithelial cells are not infrequent during the first few weeks.

As the kidneys have to remain functionally active during life, it is essential for us to discuss changes in their condition as shown on urinalysis. Not all the acute processes produce severe and lasting nephritic disease, but it is important that our examinations should detect all changes, no matter whether of the so-called functional type or of the slower and more insidious degenerative form. Jacobi, Koplik, and Morse in this country have directed attention to the necessity for frequent urinalyses in diarrheal and other intestinal disturbances.

The diseases in which urinalysis is often omitted are gastroenteric disorders, influenza, tonsillitis, and also in defective metabolism. Under the term "gastroenteric" I would include not only the acute infections of the summer weather, but also chronic or recurring gastric and intestinal indigestion.

Chapin found albumin in 75 out of 86 cases in which there was some disturbance of the gastroenteric tract. The albumin was recorded as a trace in 29; faint trace in 31; heavy trace in 15. Casts were found in 37 cases. In this group of cases there were 16 deaths, and, of these, 14 had albumin present, and 10 both albumin and casts. Thirty cases were examined for indican, and it was found in 22 cases.

Mason Knox and Meakins[1] found urine of abnormal character in 22 out of 53 cases of intestinal infection in infancy. The urinary changes were more frequent in ileocolitis than in dyspeptic or fermented diarrhea. These observers studied the infections occasioned by the colon bacillus with consequent pyelitis, etc.

Observations made by these and other clinicians show that, although the kidneys frequently escape injury in enteritis, they may become the seat of extensive secondary changes in this as in other forms of infection.

Jennings[2] states that acute degeneration of the kidneys is a common condition in acute gastroenteric diseases. In addition to the specific intestinal infection it may be caused by the various toxic products of erroneous metabolism occurring during a diarrhea.

Pyelitis from the colon bacillus or one of its associates may have its origin by invasion from the infected intestine, or through the blood stream or lymphatic structures. Pyelitis may cause delayed convalescence in enterocolitis or lengthen the period of weakness that follows an intestinal infection.

Herter, in the Carpenter Lectures before the New York Academy of Medicine, in 1898, states that the colon bacillus reaches the kidney through the blood stream by reason of some breach in the mucous membrane of the intestines. The symptoms of such an invasion are frequently indefinite, although fever and intestinal symptoms occur. Albumin may be absent from the urine, and pus cells few, but bacteria with the cultural character of the colon bacillus are found. Neglect to recognize pyelitis may result in exhaustion and death or cause tardy convalescence.

In influenza there may be changes of an acute degenerative type in the kidney, namely, urine of higher gravity than normal, with albumin in small amount, a few hyaline or hyalo-granular casts, without pus or blood, and with a normal urea excretion. More severe infections may cause an acute hemorrhagic nephritis,

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Knox, J. H. M., and Meakins, J. C.: Urinary Findings in a Series of Infants Suffering from Intestinal Infection, Arch. Int Med., October, 1908, ii, 241.
2. Carr's Practice of Pediatrics p. 780.

or the influenza may develop symptoms of acute renal involvement in children who have a record of previous disease of the kidney.

Spiegelberg states[3] that albuminuria appears in 6 to 10 per cent. of influenza cases in children. Hemenway, in a recent contribution,[4] reports a case of acute hemorrhagic nephritis in a girl of 4 in whom the influenza bacillus was cultured from the throat. The patient recovered.

In numerous examinations made of cases of vomiting known as cyclic or recurring, the urine is found to be of high specific gravity, and shows indican, acetone, and diacetic acid. In some patients the vomiting has partially yielded to treatment, but with an inherited lithemic history of gouty and rheumatic outbreaks in the patients and with albumin and casts occasionally present, I cannot feel that the non-persistence of casts is of no significance, for even if there is no definite nephritic and no cardiovascular changes are determinable I believe that the intestinal changes incident to lithemia are perhaps beginning but by regimen and diet may be retarded. One little girl under my care has a record of indican, acetone, occasional traces of albumin, and once in a great while of hyaline casts. I have been unable to find circulatory changes, but in view of a gouty family history and dry skin I am sure that the administration of alkalies and the free use of water are as important as if the patient were older and with definite interstitial processes in liver, kidneys, and heart.

After reviewing the literature and studying individual cases, there is every reason to believe that the majority of children who show albumin and hyaline casts in the urine during or after gastroenteric diseases and influenza recover. As, however, this belief in recovery is based largely on ignorance of the state of the kidney for the period following the acute disease or degeneration, I urge a routine examination of the urine of all children who have had indigestion, gastroenteritis and disturbances of metabolism. We should make every effort to watch such cases both during the time of the acute symptoms, and also for a number of months, possibly years, after their subsidence, to record the processes incident to kidney defects.

In closing, I wish to call attention to the need of examining the centrifuged sediment of urine, as casts may be detected in the sediment of urine that has not given the reaction for albumin.

68 West Fifty-first Street.

ABSTRACT OF DISCUSSION

DR. JOHN LOVETT MORSE, Boston: In conjunction with Mr. Crothers, I have recently summarized the results of the analysis of the urine of 700 consecutive babies at the Infants' and Floating hospitals in Boston; 300 were suffering from diseases of the gastrointestinal tract. In only 13 was the renal condition the cause of admission to the hospital and in 11 of these it was a pyelonephritis. Albumin was found in about 10 per cent. of all the cases. This shows how frequent renal complications are and how important it is to examine the urine. Outside of the gastrointestinal diseases, albuminuria was found most frequently in pneumonia and meningitis. These results did not confirm the common statements as to the frequency of renal complications in otitis media or eczema, in neither of which was albumin common. If an infant was edematous, we found that it was pretty safe to assume that the edema was not due to a nephritis, but to something else. We came to the conclusion that albumin was to be regarded merely as a manifestation of toxemia. In general, albuminuria showed a greater absorption of toxins and that only indicated a greater severity of the disease. There was no direct relation between the presence of albumin and casts in the urine and such symptoms as vomiting and restlessness. We had very few autopsies, but from what we had and from the examination of the urine afterward in the infants who recovered, we came to the conclusion that the condition in the kidneys very seldom went beyond an acute degenerative nephritis and that parenchymatous and interstitial changes were very unusual.

DR. FRANK S. CHURCHILL, Chicago: Dr. Carr, in his paper, referred especially to the occurrence of renal complications in scarlatina, measles and whooping cough, but I think that we are not sufficiently alive to the frequency of these complications in other conditions, especially in acute gastrointestinal diseases. I refer particularly to the frequency of pyelitis in babies. Dr. Morse has referred to an otitis media as a cause of an obscure temperature in babies. Next to that I would put pyelitis, i. e., a temperature having a wide range from normal up to 104 or 105 F. within a few hours. If, after a careful examination, including an examination of the ear, no cause for this temperature is found, it behooves us to examine very carefully the urine, and we will often find the trouble there. In such examination it is too often the custom to make a chemical examination alone. That is not a safe thing to do. If one follows this up he will be surprised to note how often he will find from an examination of the sediment indications that will not be found from a chemical examination of the urine. I do not mean that the albumin will be constantly absent, but occasionally one will find a case in which he will detect things in the sediment indicative of serious trouble. Etiologically, one of the most common things discovered in these cases is a previous history of constipation. Then, on the examination of the urine, will be found this condition of the kidneys when nothing else can be found to account for the state of the child.

On the other hand, pyelitis may be merely a complication of some other acute condition. I have more often found it in cases of tonsillitis, and there it seems to be a manifestation of the general infection. In several such cases in which there had been also an otitis and I had found a pyelitis, after the throat cleared up and the otitis cleared up, there was an obstinate rise of temperature due to the kidneys. Too much care and attention can not be given to the examination of the urine of every child brought before us.

DR. W. L. CARR, New York: I wish to emphasize the necessity for a routine examination in these cases, a class of cases that we see every day. On the way here I asked a prominent physician how often the physicians in his neighborhood examined the urine of the babies brought to them, and he said probably once in a hundred times. Certainly, since attention has been directed to this complication of gastrointestinal disorders and other infections, we are neglectful if we fail to make such an examination. We are unable to state how far the influence of these early infections on the kidney may extend. I have found in many of these cases traces of albumin and casts in patients having a family history of gout and nephritis. How progressive this may be, I can not say, but I think that in recognizing the first class of cases we may be able to prevent the second class and prevent renal disease in children having had gastroenteric disorders or having a family history of gout or rheumatism.

3. Pfaundler and Schlossmann, vii, 450.
4. Hemenway: Arch. Pediat., 1909, xxvi, 223.

Nitrogen Excretion in Eclampsia.—Many of these patients are starving individuals, living on a low and nearly proteid-free diet, and much of the nitrogen found in the urine is not the result of faulty liver action, but is derived from combustion of the tissues of the body. In starving adults, in phlethoric individuals and in the cyclic vomiting of children, this high percentage of ammonium nitrogen may be found in the urine wholly independently of toxemia. Cases of high ammonia percentages are reported in which a non-operative treatment was carried out, and the patients recovered. On the other hand, it has been necessary to terminate gestation in several instances because of threatening clinical symptoms when the nitrogen percentage was below ten.—H. M. Stone, in *Interstate Medical Journal.*

POST HOC, NON ERGO PROPTER HOC

CASES IN CHILDREN ILLUSTRATING CONDITIONS MISTAKENLY ATTRIBUTED TO INJURIES *

J. P. CROZIER GRIFFITH, M.D.
Clinical Professor of Diseases of Children at the University of Pennsylvania
PHILADELPHIA

The cases I have to report do not bear on the symptomatology or treatment of any one disease, but are merely interesting examples of the ease with which symptoms, purely medical in nature, may take on a surgical aspect and may lead one readily to assume the etiologic relationship of trauma. In some of them a fatal ending could easily have drawn the physician into the unpleasantness of a witness in an inquest, or even in a suit for damages against some individual or corporation. They are renewed instances of the old proverb, in which I have inserted the negative, "Post hoc, non ergo propter hoc." Some of them are warnings, too, against the vice of asking leading questions, and show how careful a physician should be to preserve his judgment unbiased.

The following case illustrates the possibility of confounding cerebrospinal fever and trauma:

CASE 1.—*History.*—R. J., aged 4, was brought by the police to the Children's Ward, Hospital of the University of Pennsylvania, March 12, 1907. The history given was that, March 10, as the mother and child were about to step on the platform of a trolley car, the car had started and in some way had thrown them to the ground. There was apparently no immediate bad result. On the following day, the 11th, both were attacked by vomiting. The mother passed quickly into coma and died on the 12th, the child being admitted to the hospital a few hours later. The opinion of all those acquainted with the circumstances appeared to be unanimous that the condition of both mother and child was the result of injury. This was certainly, at least, the lay belief. So decided was this that postmortem examination of the mother was ordered by the coroner, but nothing was found beyond slight congestion of the cerebral meninges.

Examination.—On admission the child appeared extremely ill; the pulse was rapid and feeble; the skin cold and pallid; the eyes sunken; there was great restlessness; the neck was slightly rigid and was somewhat tender on being moved. In view of the history given, a careful examination was made for injury, but none was discovered. Heart, lungs, abdominal viscera and eyes appeared normal. The child was unconscious and very weak.

Course of Disease.—Vigorous stimulation was required; this was followed by improvement, but without return of consciousness. In a few hours obstinate vomiting began. Not to prolong the story, I may say that the patient remained extremely ill and the diagnosis was at first most uncertain, until an examination of the blood showed a leucocytosis of 24,200, and finally typical symptoms of cerebrospinal fever developed. After a long illness she made a complete recovery.

Comment.—One can see how readily a mistake in diagnosis could have been made in this case. Undoubtedly the association of the fall from the trolley-car and the development of the disease was purely a coincidence. Had the attack commenced slightly earlier, however, the possibility of the influence of trauma would have been even more marked than it was. The autopsy on the mother showed merely the congestion which is characteristic of the malignant cases of cerebrospinal fever. The fact that both mother and daughter were affected indicated strongly at first the possibility of accident. On the other hand, it seemed unlikely that both of them should have suffered from the result of the injury in much the same way twenty-four hours later.

The following case illustrates an apparently close connection between trauma and a convulsive condition. The association even yet is not absolutely clear, and I believe that in reality there was none.

CASE 2.—*History.*—Jean J., colored, aged 10, brought to the Hospital of the University of Pennsylvania on Nov. 6, 1908, was entered in the surgical ward. This history was given: The boy had been in a fight with a much older child on the day before, on the way home from school, and was knocked down and kicked in the abdomen and perhaps elsewhere. He was able, however, to reach home, and said nothing at the time about the injury. Later in the afternoon he walked to the place where his father was working, several squares away, and while walking home together the father noticed that the boy lagged behind. He ate little at supper, was restless during the night, and on the next morning, the 6th, was found unconscious. There appeared to be some tenseness of the abdomen on the right side, and the attending physician ordered an ice-bag. The boy's pulse grew weaker, unconsciousness persisted, and he was brought to the hospital in the afternoon.

Examination.—The surgeons on the evening of the 6th found the child in a stuporous condition, and lying on his side with his legs drawn up. Pressure on any part of the body caused pain; the pupils were normal and reacted to light; the heart sounds were weak; the abdomen sometimes soft, sometimes rigid; ankle clonus was present, most marked on the right, and there was some stiffness of the neck. There was no evidence of paralysis, the urine was normal; leucocytosis 27,000.

Course of Disease.—The surgeons were unable to find any positive evidence of injury and were inclined to the diagnosis of cerebrospinal meningitis, and transferred the patient to the Children's Medical Ward, under my care, on the morning of the 7th. There was still entire unconsciousness, and there had now developed a decided hemiplegia, involving the right side of the face, right arm, and, to a less extent, the right leg. Sensation of the face and arm appeared to be lost. While under examination the patient had a general convulsion. Finding him in this condition, and it being the hour for my lecture, I exhibited him to the students. Without being able to make any positive diagnosis I said that although the leucocytosis pointed to an inflammatory condition, possibly cerebrospinal fever, the fact that a hemiplegia had occurred so soon after the onset was much against this diagnosis since paralysis is nearly always a late symptom or a sequel in this disease. I mentioned, too, the possibility of the boy having received a kick on the head as well as on the abdomen, and of the condition being perhaps one of ingravescent cerebral hemorrhage, in which there had occurred a very slow and rather late effusion of blood. On the following morning we were surprised to find the patient entirely conscious, without pain, no longer with any rigidity of the neck, and able to move his right arm and leg. The leucocyte count had fallen to 11,400. Examination of the eyegrounds revealed nothing abnormal. Showing the difficulty of diagnosis, he was kindly examined for me on the 8th, separately, by three members of the neurologic staff of the hospital, and three different diagnoses were made: first, meningoencephalitis; second, slight cerebral hemorrhage; third, exhaustion-paralysis. By November 9 all symptoms had disappeared, except that the child did not seem very bright, which was probably his natural condition.

Comment.—As to the real nature of this case I am still in doubt. It does not seem to me at all likely that the injury had any etiologic connection with it. Fights are common among boys and the negro's head is proverbially hard. There was no bruise or cut to be discovered on the body. I can not see any sufficient reason for the development of an exhaustion-paralysis. The recovery was remarkably prompt and complete for meningoencephalitis; and hemorrhage, even though minute, would hardly have been followed by such rapid improvement.

I may say that, of course, the finding of hemiplegia on the 7th of the month brought up the question of operative interference, to which the attending physician

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

was much opposed, lest it should bring us all into the unpleasantness of a coroner's inquest in case of death and the existence of trauma having been proven. The parents, too, were opposed to the operation even had we felt that the symptoms warranted it.

In many respects the following case is strongly like the last, showing the association of a disordered cerebral condition with a supposed injury:

CASE 3.—*History.*—Joseph S., Italian, aged 5, was brought to the Children's Medical Ward of the Hospital of the University of Pennsylvania, Dec. 16, 1908. I happened to be present at the time and was able to interview his mother and obtained the following history: About 10 o'clock that morning he was led into the house by another boy who said that the child had been hit by a street car. At that hour he could not talk, but could walk; seemed bewildered, and vomited several times. He was immediately brought to the hospital.

Course of Disease.—He was only semiconscious on arrival, and developed a convulsion in the right foot, leg, arm and right side of the face while being helped into the ward. The convulsion was severe, lasting ten or fifteen minutes and requiring an anesthetic. He had four convulsions later in the day, and finally was relieved by chloroform inhalations and by morphin. By late afternoon he was conscious and rational. He was slightly dull, showed some loss of power on the right side and a slight ataxia in the hand. Two days later, on the 18th, motion appeared unaffected, except for a possible diminution of grip in the right hand and some uncertainty in reaching for a cent when the eyes were closed. The leucocyte count was 18,000. On the 19th his condition was entirely normal and the leucocyte count was 10,000.

Comment.—The resemblance of this case to the last is striking and the diagnosis equally uncertain. The loss of power seemed perhaps no greater than one could expect after the severity of the unilateral convulsive condition. I may say that further inquiry, including questioning of the boy who brought the child to his home, failed to confirm any history of accident. It is apparent how easily the case could have involved the trolley company in difficulties and the hospital physician in unpleasantness had the child died.

As the subject is such an important one, I may give briefly the outline of a case which I published some years ago. It illustrates the danger of drawing conclusions based on leading questions, and shows how readily trauma of some kind may be assumed when no such thing has existed:

CASE 4.—*History.*—William B., 21 months old, was brought to the Children's Out-Patient Department of the Hospital of the University of Pennsylvania, Nov. 8, 1895, suffering from a cough of a very stenotic nature. There was some dyspnea, which was worse at night. Examination of the throat and larynx was negative.

Course of Disease.—A diagnosis of stenosis of the trachea of unknown origin was made, and under my advice the patient was entered at the Children's Hospital of Philadelphia. Four days later I was asked to attend a tracheotomy on him. I found that the resident physician, who was a very bright man but whose judgment was not always equal to his brightness, had by questioning elicited from the mother a history of the child choking over a piece of celery. This was said to have occurred four weeks previously. She had made an effort to get the celery from his mouth but had failed, and the cough and dyspnea were said to have dated from this time. Tracheotomy was to be done in order to prevent suffocation, should the cough drive the celery upward and close the rima glottidis. Forceps were passed downward through the tracheotomy wound but no foreign body could be discovered. Bronchopneumonia developed and the child died a few days later.

Autopsy.—This showed a retrosophageal abscess, with erosion of the first dorsal vertebra, the abscess having undoubtedly pressed against the trachea and the left bronchus. No evidence of any foreign body could be discovered. Further questioning of the parents elicited a vague history of stiffness of the neck and awkwardness of carriage existing for two months previous to the onset of the cough and dyspnea. The parents seemed, however, extremely susceptible to suggestion, and it is perfectly possible that leading questions had developed an erroneous history in this respect just as they had done in the matter of the celery.

Would time permit I might go on with illustrative cases. I have seen, for instance, appendicitis attributed to the kick of another child, and pain in the side supposed to be due to falling from a second-story window, but really depending on a tuberculosis of the pleura and probably of the peritoneum. But perhaps one of the most misleading of diseases is infantile scurvy. Repeatedly I have seen the sudden development of pain in the limbs in this disease attributed to trauma. In one case, observed several years ago, the mother felt certain that the nurse must have dropped the child. The later development of other symptoms, especially of hematuria, and the rapid improvement following the use of orange-juice settled the matter. In the autumn of last year I saw the following two interesting cases, which, curiously enough, came under my observation within four days of each other.

CASE 5.—Katherine C., 14 months old, was brought to my office on November 5, 1908. She had been entirely well until four weeks previously. She was in bed early in the morning, sitting between her mother and father and playing happily. Her father, who was still asleep, threw out his arm unconsciously and struck the child with such force and in such a manner that she was partially turned about and fell against her mother, the back of her head striking the mother's chin. The child cried vigorously and a few hours later the head exhibited contusions caused by the accident. Later in the morning she seemed unable to crawl, and before the day was over was unable to walk, the left ankle being tender when handled. The child rapidly grew worse and for two weeks had scarcely moved the leg at all, while passive movement was extremely painful. The week before her visit to me the arm had been painful also, and for the last five days the child was only comfortable when absolutely still.

On hearing the first part of the history the connection of the condition with trauma seemed very probable. Indeed, the parents were thoroughly convinced of it and a physician might readily have added to the father's self-reproach by the hasty expression of an opinion. It seemed odd to me, however, that the ankle could have been injured in such an accident as was described to me, and that the arm should not have suffered until two weeks later was still more curious. By the time the mother had reached this stage of the history the true nature of the case had become probable, and the finding of swollen, purplish-red gums and of red blood cells in the urine made it certain that we were dealing with infantile scurvy, and that the accident was merely a coincidence.

The other case of scurvy has a somewhat similar history, although the diagnosis was less easy:

CASE 6.—*History.*—Cyrena S., aged 7 months, was in fair health when, some weeks before I saw her, on Nov. 1, 1908, an older child of 4 years fell on the infant's leg. This appeared to give pain, not only at the time but on passive movements for some days afterward. Pain then disappeared, but within the last few days had returned, although it seemed to be intermittent.

Examination.—This showed that both legs were tender on passive movement. This in itself was suspicious, as only one leg had appeared to be injured by the accident. There was no scorbutic involvement of the gums; yet as this often fails to develop when the teeth have not erupted, and as the infant was markedly rachitic, I believed that I was dealing with scurvy, and that the suuposed injury was merely a coincidence.

Course of Disease.—The therapeutic test of orange-juice was made and the mother later reported with delight that in two days the pain had nearly disappeared, and soon thereafter entirely and permanently so.

As I have said, the list of such cases might readily be increased, but I have thought that these few might be of interest as striking examples of the caution which we must use in making a diagnosis of any supposed injury, particularly in children who are too young, or who are unable for other reasons, to give any satisfactory account of their condition.

1810 Spruce Street.

ABSTRACT OF DISCUSSION

Dr. P. J. Eaton, Pittsburg: Last year I saw in consultation three cases that had been diagnosed as traumatism, and each was a case of scurvy. If we will bear in mind that infantile scurvy is a cause of many of these apparent injuries, we shall clear up many cases much more rapidly.

Dr. Theodore Le Boutiller, Philadelphia: I had a patient who for two months had been under treatment in one of the hospitals of Philadelphia for caries of the spine, said to be due to a fall. When seen by me there was no increase in the reflexes, but there was complete paralysis of the legs. We found on examination that there was no loss of power in the legs but that the child was unable to stand on account of the pain; the gums were spongy and red. Being put on orange juice and beef juice, the child recovered within two weeks.

Dr. George F. Little, Brooklyn: It is well to bear in mind that when there is scurvy there may be separation of the epiphyses and symptoms of fracture. Recently I had a case in which there was a swelling at the lower end of the femur; a grating sensation could be elicited on movement. There were no clear signs of scorbutus. *X*-ray pictures were taken, but the plates showed nothing in either the front or lateral views. Within a few days redness and swelling of the gums was noticed. I then put the child on orange juice in addition to diet and in a few weeks it was in good condition. There was undoubtedly a separation of the epiphyses, caused by the scurvy, too slight to be apparent in the radiograph.

Dr. J. P. Griffith, Philadelphia: We are all waking up to the fact that scurvy is liable to simulate tramma. The other cases I reported are, to me, at least, more strange, and two of them are still far from clear. One of these children was examined by three different neurologists and I received three different diagnoses. Clearly what the actual condition was we do not know.

PROBABLE SPINAL CORD LESION FOLLOWING THE PASTEUR TREATMENT

REPORT OF TWO CASES *

W. A. JONES, M.D.

MINNEAPOLIS

The two cases herein reported were referred from the Pasteur Institute of the State Board of Health in Minnesota.

Case 1.—*History.*—The patient, E. N., was a man aged 38, married, carpenter, referred by Dr. J. P. Barber. Father died at 65 of grip and heart trouble; mother living at 70 and well. There were seven brothers and three sisters. One brother died in infancy and one of mountain fever. One sister died of some trouble incident to labor. One brother is insane and one sister is very nervous. The patient is married but has no children. The family history is negative except as above. The patient's general health had been good, and he insisted that he had never been seriously ill. He admitted an attack of gonorrhea seventeen years before the present illness; he denies syphilis. He used no liquor and had never been seriously injured.

Present Illness.—On March 26, 1908, he was bitten on the thumb by a small pet dog. The wound was small and bled slightly. The dog was acting peculiarly at the time, and subsequently bit another dog which afterward became rabid. On March 28 the patient went to the Pasteur Institute of the State Board of Health Laboratory, where treatment was begun. The wound was cauterized at that time and subsequently healed nicely. Daily treatments were given. The patient said that he had dreaded the injection a great deal, and had been much more nervous than usual since it was begun. On the morning of April 14 he noticed that the entire left leg felt numb. He did not feel very well during the day; the left leg continued numb, and the right felt tired when he walked. He did not sleep well that night on account of pains over his entire body and especially in his chest. In the evening he consulted Dr. Barber. His temperature was then 100 and his pulse 88. He had been able to work during the day. On the 15th he could not work. The left leg was still numb and he gradually lost power in the right but had no feeling of numbness there. He slept better the night of the 15th but only after taking a sleeping-powder. He still complained of the pain in his chest, which, he said, seemed like a worm boring its way through.

First Examination.—On April 16 the patient came to the office and was examined. He was chilly and said that when at home he sat most of the time by the stove. He was constipated, though he had taken a laxative. He had a little headache. There was some stiffness in the muscles of the right leg, but none elsewhere. In standing, he was stooped forward with a rather wide base. He complained of numbness in the penis and scrotum, and of a "heavy" pain in the right lumbar region. He had no trouble in urination. He was moderately well developed and well nourished. Pulse was 72, full and regular; temperature, 98 3/5; arteries considerably thickened. Heart and lung examination was entirely negative. The pupils were equal and reacted normally to light and distance. The ocular movements were normal; vision, hearing, taste, articulation and swallowing all normal. The left patellar reflex was increased. There was no ankle clonus and no plantar reflex on that side. The right knee-jerk was increased more than the left, and there was ankle clonus and a normal plantar reflex on this side. The reflexes of the arm were practically normal. Pain and temperature sense was lost on the left side of the body from the seventh dorsal nerve downward, including penis and scrotum and perineum. Tactile sense was retained in this area but was diminished in intensity. There was distinct tenderness in the neighborhood of the spinal process of the seventh dorsal nerve. There was also complete loss of power in the right leg but no disturbance of sensibility for pain, temperature or touch.

Second Examination.—The patient was seen again on May 15. He said that after the last examination he had been in bed with complete loss of power in the right leg for two weeks. As near as could be learned, there had been no loss of power in the left leg. His pain had largely disappeared in three days after going to bed, but at times, if he became cold, he would have an aching pain under the arms and in the dorsal region. On first going to bed he had been given a laxative and stated that after three or four days he had no control at all of his bowel movements, and had some disturbance in urination. At the time of his second examination he had been able to get about for a little time and was doing light work. He said that he felt fairly well, but complained of loss of feeling in the left leg. He said that the seventh dorsal spine was still tender. When examined, there was found to be partial loss of sensibility for temperature and pain on the left side below the seventh dorsal nerve, but much less marked than on the previous examination. Tactile sense was practically normal throughout the body. Muscular power was practically normal in the left leg, and very much improved in the right. Both patellar reflexes continued increased. There was no ankle clonus and no Babinski. The left plantar reflex was somewhat diminished. Sensation was entirely normal in the face and arms. The scrotal reflex was present on both sides.

Subsequent to this date there is no definite record of the patient's condition. He continued to improve and worked for some time, but there is a report of uncertain value that he had a subsequent relapse, the nature of which is not known.

Case 2.—*History.*—The patient was a man aged 28, single, traveling salesman, referred by Dr. J. A. Crosby. His father was living at about 50; temperate and well; mother living at 45; well. One sister died at 6 of "spasms," which she had had

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

all her life. One brother and one sister were living and well. The maternal grandmother died of tuberculosis. Aside from the above, there is no nervous or mental trouble, or tuberculosis anywhere in the family. The patient's general health had been good. At 1 year of age had a very severe illness of uncertain character and suffered infection following vaccination at 15; no other serious illness and no injury. He drank moderately. He had had gonorrhea seven years previously; was fully cured; he denied syphilis. He had had psoriasis since 6 years of age. His appetite was generally very good. He had rather a nervous temperament, and had been troubled somewhat with insomnia for six months on account of engaging in a line of work which had not been very profitable.

Present Illness.—On June 26, 1908, the patient was bitten in the arm and leg by a large Newfoundland dog, receiving some badly lacerated wounds. The wounds were cauterized immediately with carbolic acid, washed with bichlorid solution and dressed. The patient returned at once to Minneapolis. The dog was killed one day later, and there is no positive evidence as to whether it was rabid. It had not previously been known to be vicious. Three days after the patient was bitten, treatment was begun at the Pasteur Institute at the State Board of Health Laboratory, and was continued every day thereafter. The wounds healed well, and, when seen on July 16, there was only a small crust covering the wound on the leg. The patient did not think that he was specially nervous during treatment. After the sixth injection, he had considerable swelling and edema on the abdomen, which was painful and tender. About July 8 he began to feel "flashes of numbness" starting in his heels and traveling over the entire body, lasting but a moment. The next morning, on walking, he found himself tender to the touch all over the trunk. The flashes continued. July 10 he felt about the same. July 11 the tenderness continued, and he also had a sense of prickling in his chest and abdomen; he was more nervous on this day than previously; that night he sweated freely. On July 12 he began to feel pains in his abdomen, irrespective of the areas of induration, and also over the kidneys. The next morning, Monday, July 13, he felt very bad and took no treatment that day. In the evening his pain seemed concentrated in the bladder region. He passed urine twice that evening, and once at 2 a. m. on Tuesday. All day Tuesday he felt a sense of weakness in the abdominal muscles in trying to pass urine, which he was compelled to do frequently. Toward evening he had great trouble in getting the flow started; used a hot compress externally and turpentine internally. He also had a sensation of weakness in the abdominal muscles in trying to have a bowel movement. On account of the pain, he slept very little either Monday or Tuesday night. Tuesday morning there was some numbness to touch over the abdomen, and on Wednesday the numbness had extended half way down the thighs. Wednesday evening he noticed that there was a diminution of the sensibility for touch and pain to a point below the knees. He felt no loss of power in the legs or arms; no double vision. Hearing was normal. He had considerable perspiration. On the 10th and 11th he had severe pains in the occipital region. His temperature is said to have been slightly above normal on the 14th. He was seen July 16.

Examination.—The patient was a fairly well-developed and well-nourished man; height, 5 feet 11 inches; weight, 168 pounds; temperature, 97 2/5; pulse, 93. His head and face were well formed. His eyes were bluish gray and vision was good. Ears were normal in appearance and his hearing was good. There were well-marked lesions of psoriasis at various points over the body. The examination of the heart and lungs was entirely negative except for a blowing mitral systolic sound. Both radial arteries were considerably thickened. The temporals were normal. The tongue was moist, but considerably coated. Aside from this, the gastro-intestinal appparatus was normal. The patient was extremely nervous, and trembled and perspired excessively throughout the course of the examination. He complained of some pain still in the occipital region and of slight bladder pain; said that he had a "goose-pimple" feeling over both sides, occurring alternately in the chest, abdomen, and legs, and that his abdomen felt as if it were full and had a lump of dough in it. He stated that he was dizzy during the last days of treatment, but had not been so since. The expression of his eyes, and the movement of the lids and eyeballs were normal. There was no arcus senilis, ptosis, lagophthalmos, nystagmus, strabismus or double vision. The pupils were equal and reacted equally, readily, and together for light and distance. Taste and smell were normal. Sensibility for touch, pain, pressure, heat and cold was much dulled from the seventh rib to the pubes. At other points it appeared normal. There was a well-marked *tache cérébrale*. The patellar and Achilles reflexes and the deep reflexes of the arm were much increased. Ankle clonus was very slight, if present at all. Gait and station were normal. Abdominal reflexes were very faint; cremasteric considerably impaired; facial reflexes increased; muscular power in the hands, feet, arms and legs normal. There was considerable loss of power in the abdominal muscles; no fibrillary twitching; marked tremor in practically every part of the body when brought into use. Tongue was protruded straight, but very tremulous. There were no contractions and no convulsions. Goose-pimples appeared promptly everywhere on the patient's skin when he was touched in any way. There was no special irritability in muscles or nerves; no speech disturbances. There was no sensory disturbances in the thighs or legs at the time of the examination, though the patient had noticed these things subjectively, and said that he had demonstrated them objectively. He had fair control of his bladder and bowels.

Course of Disease.—July 17: The patient was evidently much less worried this day than the day before. Tremor was much less marked. The deep reflexes were only moderately increased and there was no ankle clonus. Both the abdominal and cremasteric reflexes were more pronounced. The sensory disturbances were about the same. Temperature was 98 3/10; pulse, 87.

July 25, 1908: In three days after the last note the patient was able to pass water normally. The goose-pimples and the "flashes" also disappeared at about the same time. The patient was not nervous now, or at least not more than was usual with him. He slept well. Wounds were all healed. His deep and superficial reflexes were all absolutely normal, but the left pupil was about one-quarter larger than the right. There was still slight sensory disturbance over the abdomen and lower chest; not other abnormality found in a careful examination. The patient said that he felt perfectly well.

About one month after the above date this man was seen on the street. His pupils were then equal and he said that he was perfectly well in every way.

When Patient 1 presented himself I was at a loss to interpret the condition and was inclined to consider it something altogether independent of the rabies or of the serum treatment. Shortly afterward, however, Eduard Müller's article[1] describing an identical case and other literature on the subject has been unearthed. Up to the present, however, there has been no record of any case from the United States, though there are over twenty Pasteur institutes in this country.

As early as 1891 cases similar to the above were reported from French sources, and in 1905 Remlinger,[2] the head of the Constantinople Institute for Rabies, was able, by searching the literature and by questioning different institutes, to gather reports of forty cases in which well-marked symptoms, similar to the above, were observed. Müller has found references to sixteen more in addition to his own case, and these, with Pampoukis'[3] three and the two here recorded, make a total of sixty-two cases.

Letters were sent to thirteen Pasteur institutes in the United States asking for information concerning similar cases, but, though nine responded, none reported any cases. Seven contented themselves with merely reporting the absence of cases; two, however, insisted that when such conditions were present, they

1. Müller, E.: Deutsch. Ztschr. f. Nervenh., April, 1908, xliii, Nos. 3 and 4.
2. Remlinger: Ann. de l'Inst. Pasteur, 1905, p. 625.
3. Pampoukis: Deutsch. med. Wchnschr., Nov. 28, 1908, p. 2076.

were the result of the use of improperly prepared serum, and not a necessary result of the treatment. The director of one institute had seen no cases such as described, but had had a number of patients who complained of "nervous conditions."

That a condition similar to that mentioned does occur in connection with the Pasteur treatment of rabies, as ordinarily administered, however, can scarcely be doubted. Several foreign authors speak of it as a well-established condition to be expected in a certain proportion of cases, and there is no reason why it should not appear in this country as well as abroad. The appearance of certain definite symptoms, coming on at a certain period in treatment, running an almost uniform course, and ending in almost every case in recovery in spite of the apparent seriousness of the condition, and the failure to identify these symptoms with any other known form of nervous trouble, makes it almost certain that we are dealing with a definite pathologic condition associated, in some way, with antirabic treatment. It has been urged that the symptoms are merely the manifestations of a modified form of rabies, but the lack of similarity between the symptoms of rabies and those under discussion, and the great suffering and high mortality in rabies, render this very unlikely; and, besides, the condition has been found in those who, having taken the antirabic protective inoculation, have been proved later never to have been infected with rabies. Moreover, the condition has been found repeatedly in individuals when there was no evidence of general infection following the inoculation, and when there was no reason to suspect the presence of syphilis. The exact nature of the pathogenesis of the condition up to the present is undetermined. A fatal result is rare, only two deaths occurring in the sixty-two cases given. But one autopsy has been performed, so far as can be learned, and, even in this instance, the results were rendered uncertain by the presence of a secondary infection of a different type.

About the only thing certain in the etiology of the condition is that it follows the use of the antirabic serum and occurs independently of rabic or ordinary septic infection. That the injected material contains a bound *Wuttoxin* which is the cause of the condition, is rather widely believed, but this can not be absolutely proved.

The symptoms, as they present themselves, especially in the severe cases, are not unlike those of Landry's paralysis, or severe multiple neuritis, and it is worthy of note that the initial symptoms appear in that region of the body where the inoculation is given, and later spread to other parts, indicating that, as is true with the rabic infection, the poisonous material follows along the nerve trunks until it reaches the spinal cord, where a myelitis is probably set up. In the very favorable prognosis, however, the cases are very dissimilar to Landry's paralysis.

Why the condition occurs relatively frequently at some institutes, and rarely or not at all at others, is without satisfactory explanation. Puscarin and Lebell[4] report seven cases. Gonzales[4] says that the cases occur frequently, while some institutes, especially those of this country, report none at all. At the Pasteur Institute of the Minnesota State Board of Health there have been 360 patients treated up to date. Out of this number, in addition to the two cases here reported, three others, according to reports sent to the director of the institute, showed symptoms very similar, though in milder form. Among the nine institutes that responded to inquries four reported a total of 7,080 patients treated, with no cases of the sort here described.

Though desiring to make full acknowledgment to the courteous responses received to my inquiries, I can not but believe that one factor, at least, in the scarcity of cases in some institutes is due to a failure to carefully follow up and study the patients subsequent to their treatment.

NOTE.—Since this article was prepared, I have learned that a patient with symptoms very much like those reported above was some time ago under the care of Dr. W. S. Thayer, of Baltimore, who very kindly sent me the following notes of the case, dictated from memory:

CASE 3.—The patient had just left the institute and was returning from dinner when she felt nauseated. The next day had a little fever and within, I think, forty-eight hours of the first symptom, became completely paraplegic below a point in the upper dorsal region. There was almost absolute loss of sensation, increased reflexes with dorsal flexion of the toes on plantar stimulation and ankle clonus; incontinence of urine and feces. The outlook seemed to me as bad as could be. In a week or ten days the patient began gradually to improve and eventually recovered completely. . . . The patient, who was a woman of about 40 years of age, has remained perfectly well, and I have heard from her within three or four months.

Dr. Thayer also informs me that a number of similar cases have occurred in the Pasteur Institute at which the above patient received treatment.

In the April, 1909, number of the *Archives of Diagnosis*, ii, No. 2, I have found a second case reprinted by Dr. J. R. Fabricius, which is evidently of the same sort as those described. I give herewith a brief summary:

CASE 4.—The patient, 62 years old, had had good general health. On May 31, 1898, he was bitten by a five-months-old bull terrier. The animal, which had been sick for half a day, was eventually siezed with convulsions, and directly after biting the patient it was shot. The patient's wound was cauterized with pure phenol and treatment was later begun at the health department. After the second injection the patient complained of pain in the abdomen at the site of the injection, of general weakness, and of restlessness at night. Eleven days after the first injection, and sixteen days after the bite, the patient complained, among other things, of numbness of the fingers and pain and weakness in the legs, along with considerable incoordination on walking. Later there was marked prostration with a flaccid paralysis of the upper and lower extremities. Reflexes were practically abolished. There was no disturbance of the sphincters. The paralysis extended rapidly, and death took place twelve days after the first injection of the serum. An autopsy was performed by Dr. Van Giesen, but unfortunately the body had been embalmed, and the examination was more or less unsatisfactory. So far as anything positive could be stated, the result of the examination was wholly negative, and it was specially stated that Negri bodies could not be found. Emulsions of such portions of the brain as had escaped injection were injected into guinea-pigs, which remained healthy for four months. An examination of the brain of the dog failed to show Negri bodies, and emulsions made from the brain tissues of the animal also failed to produce any symptoms when injected into guinea-pigs. This case, therefore, among others, seems to point conclusively to the fact that the condition here reported is at least independent of rabic infection produced by bite, and that the pathologic condition is due to something introduced at the time the injections are given. The two together constitute conclusive evidence that the condition described in this paper is not confined to the patients from one Pasteur institute in the United States.

513 Pillsbury Building.

4. Quoted from Eduard Müller: Deutsch. Ztschr. f. Nervenh., April, 1908, xliii, Nos. 3 and 4.

ABSTRACT OF DISCUSSION

DR. ARTHUR S. HAMILTON, Minneapolis: In connection with these interesting cases of Dr. Jones, I wish to refer to a patient of whom Dr. J. Clarke Stewart of Minneapolis told me recently. The case may have no essential relation to these just reported, but there is at least an apparent resemblance. The patient, a middle-aged man, was being treated for a condition of multiple sarcomata. He had not done very well under the treatment and the injections were discontinued for a period of two weeks. Shortly after their renewal the man developed symptoms of myelitis in the region of the sixth thoracic segment and died within a period of ten days from the gradual extension of the process upward. Dr. Stewart told me that he had written to Dr. Coley who reported that he had never heard of a similar condition in connection with the use of the fluid in any other patient. Whether the case is one similar in origin to those described or whether it is an ordinary myelitis, probably of septic origin, or possibly even the extension of the sarcomatous process, it would be difficult to say.

THE LOWERING OF BLOOD-PRESSURE BY THE NITRITE GROUP *

GEORGE B. WALLACE, M.D., AND A. I. RINGER, M.D.

NEW YORK

Since Brunton's successful employment of amyl nitrite in a case of angina pectoris, some thirty years ago, the nitrite group has obtained a fixed place in therapeutics. The members of the group stand out preeminently as drugs from which a definite result may be obtained, and which are the only available therapeutic agents in the treatment of certain conditions. There exists, however, a certain lack of detailed knowledge concerning the pharmacologic relationship between the different members of the series, and among some at least a belief that a complete lack of action often follows their administration. For these reasons it seemed to us desirable to make a comparative study of the group.

We have selected as typical members those most commonly used, amyl nitrite, sodium nitrite, nitroglycerin and erythrol tetranitrate. The work to be reported was done in part on animals, in part on normal individuals and hospital patients. In the latter the blood-pressure determinations were made by means of the Janeway sphygmomanometer. Since the completion of our work a paper has been published by Matthew[1] in England, covering a certain amount of the ground gone over by us, with very similar results.

We began by determining the rapidity, duration and degree of action on a number of normal individuals, with the idea of comparing these with determinations made on patients with abnormally high blood-pressures. To obtain uniformity of results, amyl nitrite was given in dosage of 3 minims by inhalation, nitroglycerin 1½ minims of a 1 per cent. solution, sodium nitrite 1 grain in solution, and erythrol tetranitrate 1½ grains in chocolate tablets. The latter three were given by the stomach.

Our results briefly tabulated on the basis of averages are given in Table 1.

In comparing these figures it is seen that 3 minims amyl nitrite, 1/60 gr. nitroglycerin, 1 gr. sodium nitrite and 1½ gr. erythrol tetranitrate are practically equal as far as strength of action on normal individuals is concerned. With such dosage a fall in systolic pressure of 14 to 16 mm. Hg. is obtained, or a percentage fall of 11 to 14 per cent. The chief difference lies in the duration of action, which averages seven minutes with amyl nitrite and about three hours with erythrol tetranitrate.

TABLE 1.—AVERAGE BLOOD-PRESSURE RESULTS FROM ADMINISTRATION OF NITROGLYCERIN, SODIUM NITRITE, AND ERYTHROL TETRANITRATE TO NORMAL PERSONS

Drug.	Time of Beginning action. min.	Time of Maximum effect. min.	Duration of action. min.	Maximum extent of action. mm. Hg.	Maximum extent of action. %
Amyl nitrite, 3 minims	1	3	7	15	11
Nitroglycerin, 1½ minims, 1 per cent. sol.	2	8	30	15	11
Sodium nitrite, 1 gr.	10	25	60	14	13
Erythrol tetranitrate, ½ gr.	15	32	120-240	16	14

Another point brought out clearly is the quickness of beginning action and of the return to the normal level after nitroglycerin. The action begins within two minutes and is over within thirty minutes, when this drug is given by the stomach. There would seem to be no reason, then, for giving nitroglycerin by subcutaneous injection with the idea of getting the quickest results.

In considering the individual variations which go to make up these averages it is found that in general the higher the beginning pressure the greater is the actual fall. The percentage fall, however, remains fairly constant. This same result is seen in animal experiments when the drugs are injected intravenously. The actual fall in pressure varies considerably, while the percentage fall shows remarkable uniformity.

Increase in dosage produces an increase in degree and duration of action which is, as a rule, fairly proportional to the dose. With amyl nitrite we have not infrequently seen a rise instead of a fall of pressure. This occurs if the dose is small, and is to be explained by a greater action of the heart and probably some constriction of the splanchnic vessels. It means a marked capability of the vascular system to retain its equilibrium.

One common symptom in normal individuals is headache. It may occur after each member of the group, but is especially severe after erythrol tetranitrate. Here it may last for many hours after the pressure has returned to its original level.

In studying the effects on abnormally high pressures, we have taken hospital patients with pressures varying from 172 to 265 mm. Hg. All had a perceptible degree of arterial thickening; in some the sclerosis was very marked. Two of the patients suffered from locomotor ataxia; a number had chronic nephritis; one a marked aortic regurgitation; another chronic lead-poisoning. As a rule each patient was given each of the drugs studied. Taking these cases as a group and calculating the average of the results, the figures shown in Table 2 are obtained.

TABLE 2.—AVERAGE BLOOD-PRESSURE RESULTS FROM ADMINISTRATION OF NITROGLYCERIN, SODIUM NITRITE AND ERYTHROL TETRANITRATE TO PATIENTS WITH ARTERIOSCLEROSIS

Drug.	Time of Beginning action. min.	Time of Maximum effect. min.	Duration of action. min.	Maximum extent of action. mm. Hg.	Maximum extent of action. %
Nitroglycerin 1/30 gr.	2	8	35	32	17
Sodium nitrite 2 gr.	15	45	120	53	25
Erythrol tetranitrate 2 gr.	30	60	180	60	30

Considering the individual variations which go to make up these averages, our figures compare fairly well with those of Matthew. The nitroglycerin results are practically identical. With the sodium nitrite, we have found the fall in pressure slower in coming on, the maximum fall less quickly reached and the extent of fall greater than his figures show. The same applies to our results with erythrol tetranitrate, although here the dose

---

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Matthew: Quart. Jour. Med., 1909, p. 261.

was considerably larger than the one employed by him.

Comparing these results with the ones obtained by us on normal individuals, no very great differences are seen as far as the time element is concerned. The action of nitroglycerin is practically the same in both series. The other two begin to act a little less quickly, the maximum effect comes a little later, and the duration of action is slightly longer. This is to be ascribed undoubtedly to delayed absorption and excretion. The extent of action shows greater variation, when compared to that in normal individuals, than the difference in dosage would seem to warrant. If the percentage fall is taken, however—and this is a much better index than the fall in millimeters of mercury—the extent of action is seen to be practically the same in the two series. We have noticed also that headache is rarely induced by these drugs if the beginning pressure is abnormally high. In fact, an existing headache not infrequently disappears as the pressure falls.

We have not used amyl nitrite in our cases. It has been tested quite carefully by Rzentkowski[2] in a number of cases of arteriosclerosis. He finds in such cases that an effect of greater extent and longer duration is obtained than in normal individuals.

In a few cases we have given unusually large doses. As has been pointed out by Brunton, this may be done without any especial danger. One patient was given 1/8 gr. nitroglycerin. The pressure dropped from 210 mm. to 60 mm. in ten minutes, a fall of 150 mm. Hg., or 71 per cent. Four minutes later it was up to 168 mm., and within fifty minutes after the glonoin was taken the pressure was back to its original point. The only symptom was a faintness of a few minutes' duration. To another patient 6 gr. sodium nitrite were given. The pressure fell from 210 to 100 mm. Hg., a fall of 52 per cent. These and other determinations made show that the fall in pressure is rather directly proportional to the dose taken.

In none of our cases was a lack of effect observed from any of the group used. We are aware that many failures to lower arterial tension with these drugs have been reported, but are inclined to believe that if active drugs are used refractory cases are somewhat exceptional. It is certain that arteriosclerosis of a high degree does not prevent the group from exercising its usual action, and, in fact, it seems conceivable that only in cases in which the splanchnic vessels are no longer capable of dilatation will a fall not occur.

That the flow of blood through the cerebral vessels is largely governed by the flow through the splanchnics is generally accepted by physiologists. So a splanchnic constriction means a greater amount of blood flowing through the brain, a splanchnic dilatation a lessened cerebral blood-supply. The nitrite group lowers blood-pressure chiefly through a splanchnic dilatation, and hence a lessening in the cerebral circulation should occur which would be in proportion to the fall in general arterial pressure. We have endeavored to prove this by animal experimentation, using as methods direct observation of the exposed brain, the rate of flow through the cerebral branch of the jugular vein, and measurements of changes in brain volume. Our results as yet have not been satisfactory enough to allow of a positive statement, but, as far as they go, they indicate that the brain circulation follows quite closely the general pressure changes as measured from the carotid artery. We have seen no particular differences with different nitrites in this connection, although when the pressure fall is very slight, especially with amyl nitrite, the cerebral flow may be increased.

A question of much practical importance is in regard to the best form in which nitrites should be given and whether they deteriorate in activity in keeping.

Amyl nitrite, as usually supplied in glass pearls, keeps well if not exposed to the light. The slight decomposition occurring, as evidenced by the change in color, makes practically no difference in activity. Tablets of nitroglycerin, containing 1/100 gr. each, may retain their activity for a year or more. On the other hand, it is a common experience that comparatively fresh tablets are often inert. This is to be explained, in part at least, by improper manufacture, chemical analysis having shown that the content of nitroglycerin may vary enormously in comparatively freshly made tablets. Owing to their uncertainty in dosage, therefore, it would seem advisable not to employ tablets, but to make use of solutions. A 1 per cent. solution keeps fairly well. If diluted, however, it may weaken markedly. This was shown quite clearly in one of our cases. A 1 per cent. solution was diluted to ten times its volume. Five c.c. of this diluted solution, containing 1/12 gr. nitroglycerin, produced a much less fall of pressure than half as much of the 1 per cent. solution from which it had been made two days before. The 1 per cent. solution of nitroglycerin, then, as represented by the pharmacopeial spirits, is the best form in which glonoin may be administered.

We have found also that solutions of sodium nitrite deteriorate quite rapidly. A solution should not be used which is over a week old.

Finally, with regard to erythrol tetranitrate, Matthew states that ordinary tablets are usually quite inert, but that the full activity may be retained if chocolate-coated tablets are used. We have employed such tablets and have found that even after keeping for one year they retain their full activity.

2. Rzentkowski: Ztschr. f. klin. Med., 1909, lxvill, 111.

ABSTRACT OF DISCUSSION

DR. OLIVER T. OSBORNE, New Haven, Conn.: The testimony in this paper is exactly in line with what we have learned clinically, and I am glad that the laboratory of experimentation carries out what we know clinically. I do not think Dr. Wallace intended us to think that the nitrite should be taken internally, but that it should be put up in capsules and inhaled. I think there can be no doubt that the administration of nitroglycerin hypodermically is not at all necessary. Solution on the tongue gives almost instantaneous action.

DR. REID HUNT, Washington, D. C.: Does Dr. Wallace think the headaches caused by erythrol-tetranitrate are sufficient to interfere with its use?

DR. GEORGE B. WALLACE, New York: They have not been so in cases of high blood-pressure. They are intensely disagreeable.

DR. REID HUNT: Is it a drug sufficiently well tried to go into the Pharmacopeia, for example?

DR. WALLACE: Yes, I think it is.

Thyroid Suppuration in Typhoid.—Suppuration of the thyroid is a rare complication of typhoid. Prior to 1907, 20 cases had been reported. In 19 cases typhoid bacilli were isolated from the pus. In 8 cases, a Widal reaction confirmed the diagnoses. In most cases there was an already hypertrophied thyroid, and in one case the thyroid seemed to be primarily infected. A mortality of 40 per cent. is reported by Keen. Incision and drainage are indicated. Removal of a complicating goiter is of questionable feasibility at that time.—W. D. Haggard, in *Southern Medical Journal*.

THE RELATIONSHIP OF THE MEDICAL PROFESSION TO PREVENTIVE MEDICINE*

H. M. BRACKEN, M.D.
Secretary and Executive Officer, Minnesota State Board of Health
MINNEAPOLIS

To discuss preventive medicine without giving medical men a leading place would be a strange proposition, and yet there is danger of the medical profession losing its leadership in this great work. Should that day ever come it would be one of the greatest misfortunes conceivable. Medical men are able to weigh the pros and cons in dealing with the problems involved in the prevention of disease. A disease may be recognized as transmissible, yet physicians will not know how to prevent its transmission from person to person until its cause is known. After this the method of prevention is easily determined upon.

Dr. J. S. Fulton, in his address as president of the Conference of State and Provincial Boards of Health in 1905, said:

> The people have thrust on us the most tremendous task ever proposed in the history of preventive medicine, the extinction of tuberculosis. They are sure it can be done, because we, they say, have told them so. The conquest is so magnificent that they propose to have a share, and as large a share as possible, for themselves.

But it was not till Koch pointed out the cause of tuberculosis that any intelligent action could be taken looking to the suppression of this disease, and even with this knowledge as to the cause the people can accomplish but little in their movement against this great foe of the human race without the leadership of the medical profession. The history of smallpox, typhus fever, yellow fever, plague, etc., is a tribute to the medical profession in its relationship to preventive medicine.

Is the medical profession performing its full duty at the present time in dealing with these problems? Without question this Association is the leading medical society in this country. What is it doing for preventive medicine? It has a weakly Section on Hygiene and Sanitary Science. This Section does not come into intimate contact with the profession at large. It represents a mere handful of men which meets once a year in some church basement to discuss topics that are thoroughly familiar to every worker in hygiene, be he medical man, sanitary engineer, sociologist, or layman.

It is not conditions, but the methods of dealing with conditions, that should be studied. This can be done through existing sanitary associations, such as the American Public Health Association, with an unlimited membership; the Conference of State and Provincial Boards of Health, representing those only who are actively engaged in public health work, and the Conference of State Sanitary Executives, which meets from time to time with the Surgeon-General of the Public Health and Marine-Hospital Service.

But these agencies are not enough. We should have a strong section on preventive medicine in this Association; a section that would bring together the leaders in preventive medicine from the profession at large—the laboratory workers, the clinicians, etc. —and from the sanitary workers—engineers, bacteriologists, health officers, etc. Preventive medicine should have a strong representation in this Association during the entire year—something comparable with the work of the Committee on the Pharmacopeia or of the Council on Medical Education. If the Association is not ready to create and maintain such a section, and to carry on such a line of work, then matters pertaining purely to sanitation might as well be dropped and the present Section on Hygiene and Sanitary Science discontinued.

It is not for this Association to devote a large amount of time to the study of economic problems relating to preventive medicine, but it should state the case and give its members who are interested in such problems an opportunity to work them out. Dr. Fulton, in the address already referred to, states:

> The sociologists have acquired a fund of knowledge concerning tuberculosis, which is quite as scientific and as useful as that possessed by hygienists and medical men. They believe that the methods, which have been developed in the remarkable history of organized charity, may be successfully used in the campaign against tuberculosis. The particular utility of the sociologist in this campaign will be to spread among the people a knowledge of the nature and cause of tuberculosis, and to supply the kind of information not obtainable through the channels which hygienists are accustomed to use. That these lay students can collect useful data, such as physicians rarely obtain, I have been convinced by experience in my own state.

But the responsibilities connected with the control of transmissible diseases can not be turned over to the sociologists. The medical profession must bear a part of the burden. An alliance between the medical profession and the sociologists is most desirable. Assuming that such an alliance will take place, Dr. Fulton says:

> We shall appropriate their information certainly, and their methods as far as they prove adaptable. Meanwhile, our new allies will no doubt learn something from us, and will perhaps think better than we do of our efficiency in this line.

This last is most desirable, for it seems at times that the sociologic leaders are in danger of misbranding the conservatism of the better element of the medical profession, in its dealings with preventive medicine, as narrow-mindedness. It would seem from close observation that the sociologists are in danger, at times at least, of looking to the faddist or the demagogue for leadership in sanitary matters. That we need the best aid of the conservative sociologist in dealing with preventive medicine is beyond question.

We can not make our appeals against disease sufficiently forceful when they are based purely on humanitarian grounds, but when we talk to people in dollars and cents then the arguments count. This is disgraceful, but it is nevertheless a fact. It is also a disgrace to our country that more is done for our animals than for our people. It is not the animal, however, that appeals to our national legislators; it is only the animal product. The animal has a tangible value; therefore, it is not difficult for Congress, in session, to set aside that great American bugaboo, states' rights, and appropriate hundreds of thousands of dollars to suppress an outbreak of foot-and-mouth disease among the cattle of a single state, while not a cent has thus far been procured through this august body to deal with human tuberculosis. It would certainly seem that if an epidemic disease among animals was an interstate problem a transmissible disease in man would be far more so. A diseased animal rarely travels from state to state unless compelled so to do, but human carriers of transmissible diseases are ever on the move from state to state. If human tuberculosis, smallpox, typhoid fever, diphtheria, and, in fact, every form of human

*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

transmissible disease, are not interstate problems, it surely will be difficult to find such problems.

Meat has been made such a prominent interstate topic that millions of dollars are spent annually to carry out federal inspection, and yet the dangers of transmitting disease by this product to a human being is as nothing compared with the dangers through the daily contact of the traveling public, for which not a dollar of national money has been spent.

Dr. Charles Harrington, in his able oration on state medicine,[1] before this Association in 1908, pointed out that "every attempt thus far made to confer on the national government any real power to supervise the national public health has found the Constitution in the way." Perfected "in an age which knew not steam and electric power and rapid transportation, which knew nothing of the causes of disease and the methods of their spread, which could not foresee the boundless possibilities of the growth and development of the medical sciences, and which could have no conception of the relation of public health to national prosperity," that instrument decreed that "all powers not delegated to the United States or prohibited by the Constitution to the states should be reserved for the states." Further Dr. Harrington states:

> From 1700, when Pennsylvania adopted "an act to prevent sick vessels coming into this government," the several colonies had at various intervals adopted their own laws relative to quarantine, and were not in 1796, or later, willing to allow interference with their foreign commerce; for, in addition to their jealous regard for states' rights, there existed then that same spirit of commercialism which seems to outweigh all consideration of individual and collective health. By lax enforcement of quarantine restriction, a port could attract trade that otherwise would have gone to another, where the laws were enforced with strictness, just as within very recent times we have seen local authorities as mindful of the destructive influence of quarantine on trade, that the existence of pestilential diseases has been denied, in the hope that the outbreak would die out before attracting outside attention.
>
> The law of 1796 was repealed in three years in favor of another, which, while providing for assisting the states in enforcing their own laws, empowered the Treasury Department to make rules and regulations concerning the unloading of cargoes of infected vessels at places other than ports of entry, and provided for the storing of cargoes in government storehouses, in accordance with the health laws of any state. This law, it will be noted, related to commerce rather than to public health. Repeated outbreaks of yellow fever led to repeated demands for a national quarantine, but they were always foredoomed to failure on account of the jealous regard for states' rights; and even after the widespread, disastrous and enormously costly epidemic of yellow fever, of 1878, a most reasonable bill to empower the government to act in emergencies beyond the ability of the states to control failed of passage.

It thus appears that it is a simple matter for the federal government to control commerce by interstate laws. Such being the fact, public health officials, with the aid of the medical profession and the sociologists, should endeavor to bring the welfare of human beings under the head of commerce. A move in this direction was made, I believe—whether intentionally or not I can not say—when it was recently suggested that the existing Public Health Bureau should be transferred from the Treasury Department to the Department of Commerce and Labor.

Dr. Harrington further says:

> For a nation that is pre-eminently commercial, this country is singularly blind to the necessity of conserving that which has been well defined as our greatest national asset, namely, the national health. It is useless to attempt to determine the pecuniary loss which the nation suffers annually through sickness and death from preventable diseases, for apart from the mathematical difficulties in the determination of the money value of human life—for human beings are cast in many molds and from different materials, some being parasitic and of a negative economic importance, others of enormous value, and each according to his present and prospective capacities for usefulness—we have but a small proportion of the items necessary for our calculations, which even a moderately good system of sanitary bookkeeping could place at our disposal. The statutory value of five thousand dollars set on a single human life is no more than a guess, and even though it should be determined to be a fairly accurate one, based on the average of a large number of investigated individual cases, the lack of adequate mortality statistics in a large number of our states would render futile any attempt to express the nation's pecuniary loss during any given period from deaths alone. Equally futile, with absolutely nothing more in the line of morbidity statistics than a mere compilation in a minority of the states of the number of persons stricken with certain of the transmissible diseases, and even then with no data as to the number of days lost, would be any calculation of the national sickness account. We can say only that with our great and growing population the annual waste from avoidable diseases must be prodigious. It is true that in a number of our states the state and municipal authorities, fully alive to the importance of protecting the public health, spare no efforts to restrict this loss within their respective jurisdictions, though in many but little is attempted, while the nation as a central authority does practically nothing, states' rights or no states' rights, except in so far as it maintains quarantine and the service for saving lives from the perils of shipwreck. It spends not a dollar to check the ravages of the leading causes of death, excepting the amount used in salaries and running expenses of the Bureau of Public Health and the Hygienic Laboratory, which in comparison with the older laboratories of some of the European governments is not yet of great importance, though growing. . . . In 1905, for example, the nation contributed officers' services, but not one cent of the quarter million dollars spent by New Orleans and not one cent of the expenses incurred by Louisiana, Mississippi and Florida to wipe out yellow fever and prevent its spread to other infectible areas, although the insect that carries the infection disregards states' rights, state lines and interstate quarantine.

From the foregoing it must be apparent that there is a great task before those who are interested in public health, and this Association, if it will take hold of the matter wisely, can be of much service. A great wave of public sentiment, in the form of public health legislation, is passing over the country, but without material effect thus far on either nation or many states. Unless something far-reaching is soon accomplished, the pendulum will be apt to swing back and public health problems will then be in a worse condition than at present.

What the future of the American Medical Association is to be in this great work is for you of the Association to determine, and the work can not be begun too soon. As already stated, instead of a weakly Section, which brings together only men who are already working on sanitary problems through the agency of sanitary organizations, we should have in this Association a strong Section dealing with preventive medicine from all points of view. We should have a permanent Section with the distinct function of bringing before medical men, through THE JOURNAL of the American Medical Association, all important matters pertaining to the control of disease. Is the Association ready to begin this new organization of its work pertaining to sanitary problems? If so, why not take up the question at once through the proper official channels?

1. Harrington, Charles: States' Rights and the National Health. THE JOURNAL A. M. A., June 13, 1908, l, 1953.

Clinical Notes

CEREBRAL ARTERIOSCLEROSIS WITH FOCAL SYMPTOMS CONSISTING OF SENSORY CHANGES AND JACKSONIAN EPILEPSY

A REPORT OF A CASE

H. D. McCARTY, M.D.

BALTIMORE

History.—The patient, J. F. W., was aged 67, male, white, married. His father had died, aged 73, of Bright's disease; mother, aged 50, from pleurisy. The patient had had scarlet fever, mumps, and measles when a child. He was a very healthy lad and only recalled one disease, malaria, from which he suffered repeated attacks. He denied all venereal diseases.

Present Illness.—Early in the winter of 1905, patient noticed that it was with effort that he rose from sitting postures. He tired easily and could not walk as far as he could a year previous. When walking he would often strike the right heel on the ground. The length of the stride had diminished. The steps were short and quick, and the patient felt as if he would fall forward. Frontal headaches were frequent. There was no dizziness or vomiting. Patient complained much of a dull pain in the lumbar region. Memory was poor for recent events; patient often very low-spirited, crying easily, not irritable. No paresthesias were complained of. There was no difficulty in passing urine, but urination was frequent, patient getting up three or four times during the night. Bowels were regular; patient slept well.

Examination.—This showed a well-developed man, nutrition good, skin oily and of pasty color. Eyes: Pupils were equal, reacting to light, direct and consensual, contracting to accommodation. Tongue was protruded in mid-line and freely moved in all directions. Sensation was everywhere normal; muscle strength good save in right lower extremity, where definite weakness was noted, especially in muscles of the thigh. Gait was slightly spastic, uncertain, accompanied by a tremor of the muscles of the right lower extremity. The steps were short, quick, the leg barely flexed at the knee. The right foot often scraped along the floor. The tendon reflexes were everywhere active, the right patellar reflex exaggerated; clonus obtained at the right ankle. Plantar stimulation caused plantar flexion of the toes. Pulse was 78 to the minute, regular in force and rhythm, tension plus. Heart: Point of maximum intensity of apex beat in fifth interspace, three and one-half inches from midsternal line. At the apex a loud muscular first sound, and at the base an accentuated aortic, which was clear and ringing, were heard. Urine for twenty-four hours measured from 4 to 6 pints with a specific gravity of 1012, clear, pale, occasional hyaline and granular cast. No albumin. All the arteries palpable were hard and tortuous.

Course of Disease.—A diagnosis of general arteriosclerosis was made and the patient put on treatment. His condition remained practically the same until April 3, 1906. At 7 p. m. on this date he complained of a queer feeling in the head—no pain. This feeling was accompanied by an inablity to use the left hand. He said that it felt dead. He noticed no trouble in the lower extremity. He was somewhat apprehensive but cheerful. I found the patient resting in a chair, with the left hand bent under him in an unnatural position which seemed to give rise to no discomfort. There was partial paralysis of the left upper extremity. He was unable to raise this hand to his head; had no power to resist efforts of flexion or extension of forearm or hand. There was some power in the shoulder group but all movements were definitely weak. In the same extremity there was loss of muscle sense, the patient being unable to detect position of fingers, hand and forearm, or to recognize objects placed in left hand. Touch was lost over hand and forearm. There was no disturbance anywhere of pain and temperature sense. There was some weakness in the left lower extremity but no loss of sensibility. Patient was able to walk but there was a tendency for the left knee to give away. Reflexes were active on this side but no clonus; pulse 100. At 3 a. m. the following morning the patient had a definite convulsion beginning in the left arm, involving the leg and face of the same side. He was thoroughly conscious; expression was anxious. The twitching of the arm and shoulder muscles was almost continuous. Now and then the contractions would become more severe, spreading to the facial group and the muscles of the leg. At 3:30 a. m. the patient had a severe convulsion without loss of consciousness, in which the head and eyes were strongly deviated to the left. Between 3 a. m. and 6:30 a. m. the patient had seven convulsions, always beginning in the shoulder and arm, spreading to the face and leg. The third convulsion became general, the left arm being carried above the head. Consciousness was retained. The fourth was severe, with loss of consciousness, the duration about one hour and thirty minutes. The pulse had progressively increased in rate, being 180 to the minute. The breathing was deep and rapid. The above symptoms pointed to some trouble in the region of the Rolandic fissure. The loss of muscle, joint and stereognostic senses of the left upper extremity suggested trouble posterior to the fissure on the right. The muscle twitchings pointed to irritation in the precentral convolution. The patient appeared to be getting progressively worse, the convulsions being more severe and the intervals between shorter, so without much hesitation I suggested an operation as a possible means of relief for the intercranial pressure which I thought existed. Dr. Harvey Cushing, who kindly saw the patient with me, agreed to the advisability of the operation.

Operation.—Three hours later, the patient having been removed to the Union Protestant Infirmary, the operation was undertaken. Dr. Cushing opened the skull under the right temporal muscle and the Rolandic area was exposed. We expected to see the brain bulging through the opening under increased tension when the bone flap was raised, but no such thing occurred. The brain surface was wet but otherwise normal to all appearances. A simple subtemporal decompression was accomplished and the patient put to bed in good condition.

Postoperative History.—Except for some slight twitching in the left shoulder, recovery was uninterrupted. Examination nine days after the operation showed the patient resting comfortably in bed, extremities in a natural position, perfect symmetry of the face. Eyes showed nothing abnormal. Facial movements were performed well. The left arm, forearm and hand showed definite weakness. The lower extremities were the same as before the operation, with the exception that plantar stimulation of the left sole caused dorsal flexion of the toes. The tendon reflexes were more active in the left arm and now clonus was obtained with difficulty on both sides. Tactile sense was impaired over the left upper extremity, elsewhere normal. As to localization, etc., the patient's mental state was such as to preclude a detail examination; he localized very poorly, however, over the left arm and trunk. Pain and temperature sense were not affected; muscle sense normal save in the left arm, forearm and hand. The patient could not recognize any position of the fingers, hand or forearm. Sensation was impaired in the left leg to less extent. The patient was unable to recognize any object placed in the left hand. The patient gradually improved so that he could walk from one room to another. He made almost no use of his left hand, although when instructed he could grasp the observer's hand with fair strength. The movements were ataxic. On May 5 it was noticed that he could not use his right hand as well as he could a week previous, and in walking the right foot was dragged along the floor. It was noted that the tongue protruded toward the right, and that there was definite weakness in the right arm and leg. Patellar reflex and ankle-clonus were present, and now plantar stimulation caused dorsal flexion of the toes on the right as well as the left. The patient was very forgetful, not remembering happenings within the hour. There was mental confusion as to time, place, etc. From this time the course was progressively downward, the mental symptoms increasing. Late in August the patient developed a very quick pulse and Cheyne-Stokes breathing. He became very stupid and finally unconscious, in which condition he remained several days. He rallied and improvement was noted for several weeks. From the middle of September his mental state became much worse. For days he was in a state

of anxiety often apprehensive, not recognizing those about him. This apprehensive state merged into delusions of persecution. During this time he refused food and medicine, imagining that his daughter was trying to poison him. His memory for faces was for a time abolished. He would follow with his eyes any persons entering the room inquiring what they wanted, and why should they want to harm him, his facial expression all the while showing great anxiety. If one attempted to change the patient's position in bed he would declare that such person had some evil intention, and he would endeavor to resist, at times becoming quite violent. Then again, at periods, he would imagine that he was young again—that he was fishing, riding, or in the army—that he was taking long trips by rail. It was only at brief intervals during the last month of his life that he recognized those about him. Three days before the end Cheyne-Stokes breathing developed, the heart became rapid and weak, and hypostatic pneumonia developed, ushering in the closing scene.

This case appears to be a very typical example of cerebral arteriosclerosis, showing the characteristic mental and physical symptoms. I think it probable that there had been some softening of the left hemisphere before I saw the patient, which accounted for the weakness of the right leg and exaggerated reflexes noted at my first visit. The attack, ushered in by weakness, loss of muscle sense and astereognosis in the left hand and followed by Jacksonian convulsions of the left side, indicated a fresh lesion on the right side of the brain. This was in all probability due to a thrombosis of vessels supplying the posterior Rolandic cortex. The improvement, apparently due to the operation, is remarkable in light of the fact that no increased intercranial pressure was discovered.

The subsequent course of the disease was typical of a progressing cerebral condition due to the gradual closing of the vessels with the resulting softening.

613 Park Avenue.

EMPYEMA

REPORT OF TWO CASES WITH SOME UNUSUAL FEATURES *

D. H. GALLOWAY, M.D.
ROSWELL, N. M.

The following case of empyema seems worth reporting because of the unusual amount of pus evacuated and the fact that its removal caused so little disturbance to the circulation:

CASE 1.—*Patient.*—About noon on January 4, there came into my office a young man aged 21. He was able to say but one or two words and then was obliged to stop to get his breath.

Examination.—I found that the left side of the chest was greatly distended and that there were three large, flat, tumor-like masses almost covering it. I made a diagnosis of empyema. I supposed that the pus had forced its way through the intercostal fascia and therefore that these projections were abscesses in the soft tissue of the chest wall. The heart occupied about the same relative position on the right side that it normally does on the left. The stomach and intestines were pushed down so that the abdomen projected like that of a very corpulent man. The limbs, arms and face were emaciated so that the patient's appearance was almost grotesque.

He told me that this condition had lasted about three months and was slowly getting worse. He walked out of my office, got into the buggy and I took him at once to the hospital where I left orders to have him prepared for an operation at 8 o'clock the next morning. I returned to the hospital at 8 that evening and the nurse met me with the statement that the patient was dying, and so it looked to me.

* Read before the Pecos Valley Medical Society, Aug. 31, 1909.

First Operation.—I inserted an aspirating-needle, applied a pump, and began to draw the fluid into a graduated bottle. After obtaining a quart of pus, I stopped to examine his pulse and chest and found him breathing evenly; in fact, he said he was very comfortable. The odor from the pus was so bad that one of the sisters, who was holding a kerosene lamp, was obliged to leave the room and we had to change assistants several times. The patient himself volunteered to hold the lamp, but instead I allowed him to hold the needle while I did the pumping. I continued this for an hour and a half, the patient at no time feeling faint or dizzy, and when I had drawn out 188 fluidounces or almost six quarts of pus, I stopped, not because the pus gave out but because I had never heard of this amount of fluid being taken from the chest cavity at one time and I feared that there might be much shock. When I began aspirating the pulse was 130, the respiration 50 and the temperature 100. When I finished the pulse was 108, and the respiration 20. On drawing out the needle more than one-half pint of pus ran out through the puncture.

The patient expressed himself as feeling better than he could remember to have felt ever before. He lay down, went to sleep and slept all night. The next day his appetite was good, almost ravenous. His bowels moved more freely than they had for months.

Second Operation.—Five days later Dr. Phillips administered chloroform and I resected a part of the eighth rib, turned the patient over on his side and poured out more than a gallon of pus, filling to overflowing a large surgical basin. I inserted two large drainage-tubes and put on a large dressing.

Postoperative History.—The odor was so extremely offensive that I always changed the dressings myself, and irrigated the wound daily with a solution of permanganate of potash. The soft swellings and great distention of the bony wall of the chest rapidly disappeared, but there was not the slightest tendency shown by the heart to return to the left side, nor was there any evidence of lung tissue in the left side of the chest, the cavity remaining to the end apparently as large as it was two or three weeks subsequent to the operation. The heart seemed firmly fixed in its new position. The remains of the left lung, if there were any, took the form of a small, solid mass in the upper part of the cavity. The patient was reasonably comfortable for some time, but tuberculosis had attacked the other lung, and the man died five months after I first saw him.

CASE 2.—*Patient.*—P. F., a young man aged 26, born and raised in Texas, came to me Jan. 21, 1909. He had had typhoid fever at 14 and again at 15; at 16 he had typhoid and pneumonia, being laid up for forty-nine days. As soon as that attack was over he contracted measles, then smallpox and then scarlet fever. He had a rise of temperature in the afternoon and on any exertion. Following the pneumonia a cough and an abscess of the lung developed and for ten years the patient had expectorated great quantities of very offensive pus, sometimes as much as a pint a day.

Examination—Patient was emaciated, with sunken cheeks; pulse was 110, temperature normal, apex of heart two inches inside of the left nipple and on a level with it. The left side of the chest was dull below the fourth rib. There was a tumefaction in the left side of the abdomen, reaching to the umbilicus and to the spine of the ilium. The dulness of this tumefaction was continuous with the chest dulness. The patient had not been able to do any work for ten years.

First and Second Operations.—I recommended an exploratory laparotomy, which was performed on Feb. 17, 1909, after which it was intended to resect a rib and try to drain the abscess. The tumefaction proved to be a greatly enlarged and displaced spleen. The notch could not be palpated before operation. Much difficulty was found in closing this wound and, the patient's condition being bad, the operation on the thorax was abandoned for the time. The patient rallied well from this operation and on Feb. 23 he was again anesthetized for the resection of a rib. The eighth rib was resected at a point just anterior to the axillary line. The rib was so hard that it required all my force to sever it with an 8-inch heavy bone-cutting forceps. With this piece of rib removed I was

unable to introduce the end of my index-finger in the space between the ribs above and below the one removed, so that a second had to be resected and a portion of a third. The distance from the skin to the walls of the pus cavity was over two inches. When the cavity was opened a quart of extremely offensive and thick pus was removed. Two large drainage-tubes were introduced.

The patient made a good recovery from this operation, and all of the symptoms began at once to improve. The cavity was irrigated every day with a solution of permanganate of potash and occasionally a watery solution of iodin. An electric light introduced into the cavity about two weeks after the operation showed the walls to be covered with what looked to be healthy granulations. On filling the cavity with a fluid it was found to hold eight ounces. The patient left the hospital on March 21. On March 25 the cavity would hold two and one-half ounces; on May 12, one and one-half ounces. The patient went home, dressing the wound himself. A few days later he wrote me that the tube had come out and that he was unable to replace it. He called on May 29, when the wound was completely closed. He had gained in weight and was able to work every day, driving a mail wagon. On June 1 he had a slight chill, with pain in the right side of the chest and fever.

Third Operation.—On June 4, I opened the sinus without anesthesia, going in about one inch and getting two or three c.c. of pus. Strange to say, this pus had practically no odor.

At this date, September 1, there is a sinus about two inches deep and one-eighth of an inch in diameter. So far as I can determine, there is no cavity at the end of the sinus. The man is now doing regular farm work and is able to do as much or more than the average farm hand.

A NEW METHOD OF STAINING MOTILE ORGANISMS, RENAL TUBE CASTS AND FIXED SMEARS OF SPIROCHÆTA PALLIDA

EDGAR G. BALLENGER, M.D.

ATLANTA, GA.

The ease with which motile bacteria may be seen with the dark-field apparatus led me to investigate the feasibility of staining the germs while alive and motile; the results have been so satisfactory that I desire to describe the following simple technic of staining specimens without fixing the smears: One drop of the fluid to be examined and one drop of a 1 per cent. solution of dahlia are mixed on a clean slide and a thin cover-glass is placed over it; the specimen is then ready for examination with the low power, high power or oil immersion lens. When too much fluid is placed on the slide a drop of it may be transferred with a platinum loop to another slide after an equal amount of stain has been mixed with it. When using the oil immersion lens it is important to have only a very small quantity of the secretion under the cover-glass. The dahlia should be used in an aqueous solution, but unless freshly prepared this may become infected; to prevent this I have made a 10 per cent. solution of the stain in 90 per cent. alcohol; I dilute one part of it with nine parts of water just before using it. This amount of alcohol does not affect the motility of the germs for a considerable time.

The clearness and facility with which motile organisms may thus be observed is more satisfactory than in the ordinary fixed smears or by the dark-field illumination. Tube casts are immediately stained, and in this way may be rendered less likely to be overlooked, even the hyaline ones being stained, as are the pus cells, epithelial cells and mucus.

While using the Reichert dark-field illuminator I was astonished at the frequency and enormous numbers of motile organisms found in the secretion expressed from the prostate glands of patients who had mild but persistent irritation around the neck of the bladder, or slight urethal discharge. These observations have been confirmed and the technic simplified by the above method of staining, and I feel sure that a further development of the subject will throw much light on this rather large class of patients with which we so frequently come in contact, and probably on the etiology of prostatic hypertrophy in elderly men. The small amount of pus present is often misleading. In hyperacute or complicated gonorrheal urethritis an excess of infecting organisms other than gonococci have been frequently observed, and, as they often preponderate in numbers, they may be found to be the cause of the unusually severe inflammation. A further report will be made on the rôle played by organisms other than gonococci in genito-urinary affections.

Fixed smears of the *Spirochæta pallida* are more clearly stained by dahlia than by any of the other stains I have used (Giemsa, Goldhorn and the modified Romanowsky) and are then more easily seen than with the dark-field illumination; about 5 or 6 per cent. aqueous solutions will stain them in 5 to 8 minutes. While the spirochetes may be seen when alive and motile, I have been able to demonstrate them more clearly in the fixed smears when deeply stained with the strong aqueous solution.

Dahlia is an intense stain and has a remarkable affinity for germs and for pus cells; when a weak solution is added to purulent secretion or urine nearly all of it is quickly taken up by the organic material and the field is left clear enough for delicate observations. The amount of the stain to be used, accordingly, varies with the amount of the pus and bacteria present; very little stain is required in staining clear urine for tube casts. If the staining of a specimen is too feeble a drop of the stain may be placed just at the edge of the cover-glass; enough of it will be drawn under it to bring out more clearly the organic substances.

It was found that the other stains tested in working out the above technic must be used in such strength, to stain the germs sufficiently, that the field is made too dark for a satisfactory examination.

From my experience during the last few months, since this method has been in use, it seems that it should have a distinct place in the laboratory of every physician who does microscopic work. Since its adoption the Reichert dark-field illumination has been entirely discarded except in verifying some of the results. As far as I can find, such use has not been made previously of this or other stains.

1013 Century Building.

How to Crank the Car.—Though cranking a motor seems a matter concerning which no particular instruction is required, remarks the *Cooperator*, there is a right and a wrong way of cranking. The novice will invariably grasp the starting handle as he would a club, so that his fingers envelop the handle in one direction and his thumb in the other. This method should be avoided by every one who does not desire to suffer the consequences of a back-kick. The thumb should not be used, but should be folded up against the fingers. A back-kick will then do no harm, but simply will open the fingers. This is particularly true when the left hand is used in starting, because then the operator's arm is extended on the upward pull of the handle and the back-fire will open the hand and throw it out of the field of rotation of the crank.

EYE SYMPTOMS OF PELLAGRA

PRELIMINARY REPORT OF EXAMINATION OF EYES OF FIFTY-FIVE PATIENTS

CARROLL B. WELTON, M.D.
PEORIA, ILL.

The fifty-five patients were examined at the Illinois State Hospital for the Insane at Bartonville, Ill. The psychoses of these patients showed such types as epileptic insanity, dementia præcox, manic depressive insanity, imbecility, puerperal mania, paranoia, senile dementia, and a few unclassified conditions. An equal number of patients displaying psychoses of the same classes, but having no symptom of pellagra, were examined and used as controls.

The ages of the patients with pellagra varied from 22 to 70 years, with an average age of 48 years, and of the 55 patients there were 9 males and 46 females. Seventeen showed no abnormality of the eyes, either in the muscular apparatus, lids, pupil reactions or the fundus.

The only symptom that I found involving the lid was ptosis, which was present in one case, but Manson[1] states that this is not an uncommon sign. Paralysis of the external eye muscles occurred in 3 per cent. of these patients, with no cases occurring in the controls. Bellamy[2] states that, after the third recurrence of pellagra, palsy of the motor oculi nerve may be found, though it was not present in the seven cases reported by him. Von Neusser[3] noted diplopia with negative optic muscle condition, but his patients were not among the insane, and his observations obviously could not be verified in this class of patients. He also noted nystagmus, which was not found among my cases.

Conjunctivitis was found in 10 per cent. of the pellagrous patients whom I examined. In no case of pellagra was there found involvement of cornea. The vision of twenty-two of the patients with pellagra was examined; it was impossible to determine the vision in thirty-two cases on account of the degree of dementia present. One patient was blind and two showed only quantitative vision. Six had vision of 15/30, five had 15/40, nine had 15/50 or less. In these patients taken as a group, the visual acuity was less than in the patients not affected with pellagra. Reduction of vision is also reported by von Neusser.

In the pupillary changes the light reflex was diminished or abolished in 12 per cent. of the cases of pellagra. The Argyll-Robertson phenomenon was present in two of these, and neither of these patients had tabes or paresis; these two conditions were not present among any of the fifty-five patients with pellagra. The Argyll-Robertson pupil, however, cannot be considered a symptom of pellagra unless the latter is proved to be a parasyphilitic disease. Among the patients showing pupil changes were found three with diminished light reaction, with the same condition present in three of the controls.

Two cases are also included in which all the internal muscles of the eye were paralyzed (internal ophthalmoplegia); but in the controls five such cases were found. Therefore the pupil changes were not found as frequently in the pellagra cases as in the control cases, and from my observation cannot be regarded as a symptom of the disease. In this respect I cannot verify the statements of von Neusser and Zanon, who report the diminution or loss of light reflex in all cases.

An interesting fact, though not symptomatic of pellagra, was noted in these two groups of insane patients. Of the 110 patients 41, or 37 per cent. of them, presented inequality of the pupils, it being found in 22 of the patients with pellagra and in 19 of the control cases. The right pupil was larger in 29 and the left larger in 12. Bach[4] states that about 10 per cent. of normal individuals show inequality of the pupils, so that the insane, according to this observation, show over three and a half times that number.

Cataractous lenses were found in 12 per cent. of the patients with pellagra, whereas only 3 per cent. of the controls showed changes in the lens. The ages of the pellagrous patients showing lenticular changes ran from 40 to 69 years, with an average of 52 years. The urine in these cases was negative to tests for albumin and sugar. Von Neusser also noted frequent early-forming cataracts in his cases, but he gives no percentage in number found. In looking over the clinical histories which were compiled by Captain Siler of the U. S. Army service, the blood pressure in these cataractous cases averaged 137 mm. Hg., the lowest being 125 mm., the highest 155 mm. This would not substantiate the view that a high blood-pressure accompanies cataractous conditions of the lens—at least not in pellagra. A number of traumatic cataracts were observed in the examination, but, of course, were not included in the statistics given above.

Five per cent. of the pellagrous patients showed vitreous opacities; there was no case of this kind among the controls. Optic neuritis was present in 5 per cent. of the pellagrous patients, and one presented a secondary atrophy of the papilla. Some cases of primary atrophy were noted among the patients with pellagra, but primary atrophy was also found in the controls.

In the retina, retinitis or retinal atrophy was observed in 10 per cent. of the cases, complete atrophy of the retina being present in one case. Diffuse chorioretinitis was found in one case and retinal hemorrhages noted in one case. The examination of the urine in these cases showing retinal changes was negative for albumin and sugar. Arteriosclerotic changes in the retinal vessels were present in 7 per cent. of the pellagrous patients, and the ages ranged from 45 to 69 years, the blood-pressure running from 125 mm. to 190 mm. Hg.

The choroid was involved in 10 per cent. and to a marked degree, while no changes were found in the controls. In going back over the cases that showed marked lesions of the choroid the asylum records show that five of these patients have died since the examination was made, only one surviving. These patients showing choroidal lesions all displayed severe types of pellagra, except one living now, who had a moderate degree of the disease.

Dividing the 55 cases into three classes—severe, moderate and mild—4 of the mild cases show eye changes and 15 show none, with no deaths in this class. In the moderate cases, 6 show eye changes and 8 show none, with one death among the ones having eye symptoms. In the severe type of the disease, 13 show eye changes, and out of these 13 there have been 9 deaths. Nine of the severe cases show no eye changes, with 4 deaths among them. This shows a mortality of 43 per cent. in the cases of pellagra presenting eye symptoms.

CONCLUSIONS

The conclusions that I have reached from a study of these cases are the following:

1. Manson: Tropical Diseases, 1907, p. 339.
2. Bellamy, R. Harlee: Pellagra; Its Occurrence in This Country; Report of Cases, THE JOURNAL A. M. A., Aug. 1, 1908, li, 398.
3. Von Neusser: Verhandl. d. Gesellsch. deutsch. Naturf. u. Aerzte, 1906, Part 1.
4. Pupillenlehre, 1908.

1. Paralysis of the eye muscles is found in the later stage of the disease in a small percentage of cases; conjunctivitis is not an uncommon symptom. Early-forming cataracts are frequently noted, and the theory of the metabolic nature of pellagra is supported, because cataract is generally considered as an altered state of the nutrition of the lens when occurring in normal individuals. Inflammation of the optic nerve and retina is observed in a relatively large percentage of cases. Common, and most pronounced of all the eye changes, is involvement of the choroid.

2. In none of the cases presenting eye symptoms could the character of the eye changes be regarded as pathognomonic of pellagra.

3. The severity of the eye symptoms runs parallel with the severity of the general manifestations of the disease and that the finding of marked eye changes adds to the gravity of the prognosis in pellagra and indicates, in a large percentage of cases, an early fatal termination.

237 Woolner Building.

AN INEXPENSIVE SUSPENSORY APPARATUS FOR POTT'S DISEASE

THOMPSON FRAZER, M.D.
ASHEVILLE, N. C.

The general practitioner, who has but an occasional case of Pott's disease to treat, frequently finds the expense of a suspensory apparatus, as supplied by the manufacturers of deformity appliances, prohibitive. The following device which I have employed has the advantages of cheapness and availability:

A large screw-hook and a cleat may be purchased for a few cents. The hook is screwed into the top of the doorway, and to this is fastened a set of three pulleys and rope (an old "exerciser" can be used); to the lower pulley is attached an ordinary wooden coat-hanger. A Barton's head-bandage is firmly applied to the child's head and a roller bandage is passed through the center of this and made fast to the coat-hanger above. The length of this bandage is determined by the length of the child's arms, the hands grasping the ends of the coat-hanger or being thrust through loops attached to it.

The apparatus is easily adjusted by means of the rope and pulleys, and when the heels are elevated to the desired height the free end of the rope is made fast to the cleat, which should be fastened to the door-case a foot or two above the floor.

Medical Building.

Frequency of Antitoxin Accidents Increases with Age.—Marfan and Oppert state that the percentage of cases in which serum accidents were observed after injection of diphtheria antitoxin in 2,682 children in their service during the last three or four years increased from 4 per cent. of 26 children under six months and 5.8 per cent. of 68 under a year to 13 per cent. of 1,519 children between 2 and 6, while the proportion is 40 per cent. in adults. About 44 per cent. of 134 persons inoculated with antiplague serum at Frioul quarantine displayed serum accidents. In the dyspeptic the disturbances were digestive, while those predisposed to joint affections developed painful and tenacious arthritis, some exhibiting an actual infectious pseudorheumatism and others more or less well-defined neuritis. Leroux who reports these disturbances remarks that the antiplague serum seemed to rouse old taints, and some of the patients did not regain their previous health for several weeks. The communications on the subject were published in the *Bull. de Pédiatrie de Paris*, April, 1909.

THE TREATMENT OF TUBERCULIN REACTIONS

CHARLES RAYEVSKY, M.D.
LIBERTY, N. Y.

It is now certain that tuberculin has entered our materia medica to remain. Not only is it being used for diagnostic purposes, but it is also gaining ground, slowly but surely, as a therapeutic agent in the treatment of tuberculosis in all of its forms and manifestations. There is hardly a sanatorium for the treatment of tuberculosis where it is not considered the diagnostic agent *par excellence* in obscure cases, and in many sanatoriums it is used for immunizing purposes. All this is due to the fact that the action of tuberculin has been carefully observed, so that its great potency has been appreciated, and doses that some eighteen years ago would have been scoffed at as homeopathic, if employed as initial doses, are now considered dangerous.

Pulmonary tuberculosis is now being treated with tuberculin, and, owing to cautious use, almost, but not entirely, without reactions.

From observations in my own practice and in that of others I must state that tuberculin reactions are of common occurrence in practice. There are only a few patients, if any, who have been brought up to a considerable dose and who have passed their course of treatment without any reactions. In some cases the reactions were at times mild, often overlooked; at other times they were violent.

I am as cautious in my use of tuberculin as it is possible to be; still I have seen a good many reactions, even in cases in which the increase of the dose was only 4 per cent., and also from such small doses as 0.00000015 of the B.E. and 0.00002 of the O.T.

Tuberculin is a very treacherous agent, and it will probably remain such until its action is better understood than at the present day. Until that time we must be prepared for reactions, at times violent ones; and therefore the treatment of reactions is an important problem in the treatment of tuberculosis by tuberculin.

The reaction usually manifests itself within six to eight hours after the administration of the tuberculin; sometimes its prodroma begins as early as an hour after the injection is made; sometimes it may be delayed for thirty-six hours. It is usually accompanied by a feeling of oppression in the chest wherever the foci of the disease may be situated. There is pain in almost all the bones of the body; a patient of mine has said that he felt as if he was "pounded up in a mortar and all joints made loose;" there is a feeling of nausea; sometimes emesis ensues; there is often a high fever; temperature will rise at times rapidly, at others slowly; sometimes there is no temperature rise at all. With the nausea and vomiting there is also pain or tenderness in the epigastrium, but the latter may also be present without the former. A cold perspiration often covers the patient's body; the skin sometimes becomes cold and clammy, but at times it is hot and dry; the face is at times flushed and at times cyanotic or of an ashen color. Chills and rigors may also sometimes be seen during a strong reaction.

When one looks at the patient overcome by the tuberculin reaction, one is often struck by the similarity of the clinical picture of the tuberculin reaction to the one of a ptomain poisoning, or of a toxemia in general.

The train of symptoms in a tuberculin reaction is caused in two ways:

1. By the action of tuberculin as a toxin in general.

2. By the action of the tuberculin in the foci of the disease.

The general toxemia element is usually more predominant, in the reaction from the diagnostic use of tuberculin, when the increase of succeeding doses is fivefold the preceding ones. In the reaction from the use of therapeutic doses the focal or specific phenomena in the diseased area are more prevalent.

The reaction from therapeutic doses gives also the same train of symptoms as that from diagnostic doses, but with less severity. These symptoms are usually the accompaniment or the result of the formation of the autoprotective elements, the disintegration, and are sometimes due to the process of absorption of the diseased area. These reactions are evidences of the fact that immunity is being created; they are to an extent beneficial, and to interfere with them or to stop them would mean to lose ground, gained by active immunization, through the administration of tuberculin.

From the foregoing it can easily be deduced that the treatment of the reactions must vary. In cases of reactions from diagnostic doses, in which the general toxemia is the dominant feature, eliminatives may and sometimes must be resorted to, but such treatment in reactions from the therapeutic use of tuberculin would be contrary to the purpose of producing immunity.

In treating reactions produced by diagnostic doses the symptomatic treatment is advisable. First of all, perfect rest is of utmost importance; not only should noise be kept away from the patient, but light is often irritating, and the room of the patient should be therefore somewhat darkened.

The nausea and vomiting are often relieved by an ice-bag over the epigastrium; should this be insufficient, bismuth subnitrate in combination with cerium oxalate in medium doses may be administered. But if the pain in the epigastrium, the nausea and the vomiting should still continue, drop doses of phenol may be given, and in very severe cases doses of 1/10 grain of cocain or ½ grain doses of extract of opium may be employed.

For the headache and fever an ice-cap was a sufficient remedy in my hands; still men of such wide experience as Dr. Bandelier of Görbersdorf and Dr. Ropke of Melsungen go further, and advise the use of phenacetin and migrainon and in very severe cases pyramidon in repeated doses of 1½ grains. These antipyretics, however, should not be given until the temperature shows a tendency to decline.

For the toxemia proper, eliminatives should not be forgotten; a five-grain dose of calomel should be administered as soon as temperature reaches 102 F., or as soon as the specific reaction has been established and the foci of the disease located. Treatment should never be begun before the specific and focal reaction have been established, as the fever and other toxemic symptoms are not sufficient evidence of the presence of a tuberculous process. It must be remembered that toxemic symptoms may be manifested in cases in which no tuberculous process is present, and if fever has reached 102 F., with no manifestation of the evidence of a specific focal reaction, the diagnosis should be considered as a negative one, and the treatment of the reaction as a toxemia in general should be begun at once as outlined above; with it, stimulation by strychnin should be employed.

In reactions from therapeutic doses of tuberculin the indications are different. The reactions are usually milder, as some immunity to tuberculin has been established by the preceding treatment; still there may be sometimes violent reactions. The eliminative treatment, which is the most important in the reaction from the diagnostic use of tuberculin, should be here entirely omitted, as with the elimination of the toxins the autoprotective elements will also be removed from the system, and the patient will have another reaction from the next dose, not only when slightly increased or repeated, but even when diminished. Instead of eliminatives, stimulants are here strongly indicated and are of paramount importance. The stimulants not only support the heart and stimulate the nervous system, but they also stimulate the adrenal system, and thereby assist in the richer and more rapid production of autoprotective elements, which in themselves cut the reaction much shorter.

I used eliminatives principally in my first experiences with the reactions, and the result was that the succeeding doses had to be decreased; and not only this, but the rate of progression as well. Instead of going on with an increase of 50 per cent. the increase had to be dropped to 20 per cent., and even to 10 per cent. This certainly delayed the process of immunization to a great extent. Since eliminatives have been discarded in reaction from therapeutic doses and stimulants relied on, not only did I not have to reduce the dose, but I could slightly increase it even after a reaction, and after three slight increases I would return to the former progression, increasing the succeeding doses by 50 per cent. and 25 per cent., according to the size of the doses administered.

84 Academy street.

SARCOMA OF KIDNEY

HERMANN B. GESSNER, M.D.
NEW ORLEANS

Because of the small number of patients with sarcoma of the kidney who have survived operation three years, I think it worth while to publish the following additional case:

Harold B., aged 2½, of excellent family history, was found in May, 1906, to have an abdominal tumor on the right side; this extended from the costal arch to near the brim of the pelvis, measuring about 10 by 5 inches; it was movable from side to side. Nothing abnormal was detected in the urine.

About ten days after the discovery of the growth I was called to the boy's home, Mansura, La., where, on May 16, I operated with the assistance of Drs. E. Regard, T. A. Roy and G. L. Drouin. The usual technic of transperitoneal nephrectomy was followed. Recovery was uneventful.

The tumor was submitted to Dr. O. L. Pothier, pathologist of the Charity Hospital, a summary of whose report follows:

Description of gross specimen: This is a large, round tumor involving part of the kidney; measures 11 by 9 cm.; is of a white color on section, rather juicy and gelatinous. A portion of kidney not involved. Pelvis and ureter seem free from infiltration.

Gross pathologic diagnosis: sarcoma. Microscopic diagnosis: Myxosarcoma.

When last seen, Oct. 6, 1909, the boy was in excellent health, nearly three years and five months after the nephrectomy.

1209 Maison Blanche Building.

Immunization.—Typhoid immunization by Wright's vaccine has not yet reached the stage where it can be said to be of practical use, except in armies where the men are under the control of their superiors. The reaction from the inoculation is sometimes severe, and the inoculations have to be repeated several times for the immunity to be of sufficient duration to make its employment worth while.—S. Harris, in *Southern Medical Journal.*

THE TRANSMISSION OF ACUTE POLIOMYELITIS TO MONKEYS *

SIMON FLEXNER, M.D., AND PAUL A. LEWIS, M.D.
NEW YORK

Poliomyelitis or infantile paralysis prevailed in epidemic form along the Atlantic seaboard in the summer of 1907. About that time it appeared in Austria and Germany. In the summer of 1909 the disease reappeared as a focalized epidemic in Greater New York and had, by that time, spread widely throughout the United States and Europe.

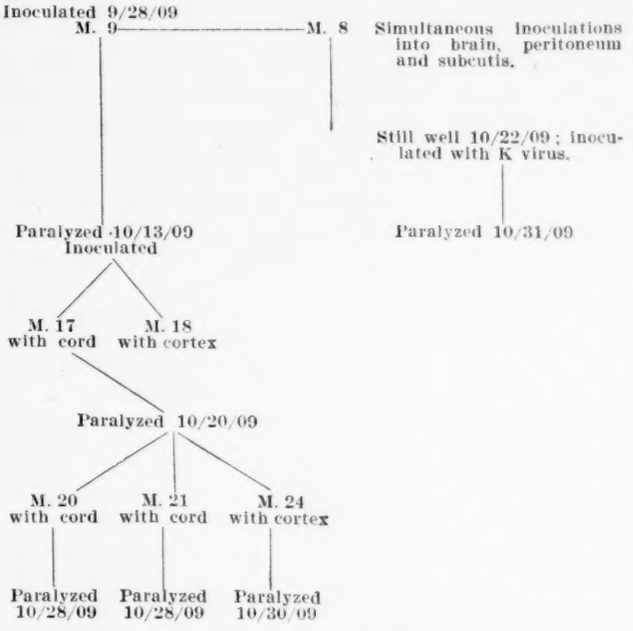
The cause and mode of dissemination of the disease are unknown; and hence there exists no intelligent means of prevention. While the severity and fatality of the disease fluctuate widely, its effects are always so disastrous as to make it of the highest medical and social importance.

In spite of many thorough studies of the spontaneous disease in man, our knowledge of causation and prevention has not been advanced; it may be hoped that it will be advanced by the opportunity for fundamental study opened up by the successful transmission of the disease to lower animals.

In May, 1909, Landsteiner and Popper[1] published a report of two successful inoculations of monkeys with the spinal cord obtained from two fatal cases of poliomyelitis. The injections were made into the peritoneal cavity. One monkey became paralyzed in the lower extremities and died on the sixth day after inoculation; the other was killed on the nineteenth day. In both, lesions of the spinal cord similar to those in man existed. The disease could not be transferred to other monkeys. Our efforts to transmit the disease to lower animals were first made in 1907, at which time cerebrospinal fluid obtained by lumbar puncture was introduced into the spinal canal and peritoneal cavity in monkeys and other animals. We were limited to this fluid, as we did not secure material from a fatal case. The results were negative. Since September of this year we have secured suitable material from two cases of poliomyelitis in human beings. For the material from one we are indebted to Dr. Ridner, of Lake Hopatcong, N. J., and for the other to Dr. Le Grand Kerr, of Brooklyn.

Dr. Ridner's patient died on the fifth or sixth day after the appearance of the paralysis, which affected the lower extremities. The lumbar cord was obtained in a sterile condition, twenty-six hours after death, and a portion was inoculated into monkeys about twelve hours later.[2] The entire spinal cord was obtained from Dr. Kerr's case twelve hours after death, and inoculation into monkeys was made four hours later. In Dr. Kerr's case, in which death occurred on the fourth day, the lesions were diffuse throughout the cord. Paralysis had been very extensive. The gross and microscopic lesions were characteristic in both cases.

In order to favor the transmission of the disease to monkeys, the brain was chosen as the site of inoculation, which was made under ether anesthesia through a small trephine opening. After the operation, the animals were at once lively and normal. The injected material consisted at first of emulsions in salt solution of the spinal cord from the children and later of emulsions of the spinal cord of monkeys developing the paralysis. An effort was made to enrich the inoculating material by incubating it in celloidin sacs placed in the peritoneal cavity of monkeys and rabbits. At the present time we wish merely to record the series of successful experiments which we have conducted with the spinal cord obtained from the case of Dr. Ridner and designated M. A. The accompanying chart will show at a glance what has been accomplished up to date with the M. A.



Transmission of M. A. virus through monkeys. The virus is being transmitted further. The abbreviation M. signifies monkey.

virus. We may mention here that the microscopic study of the spinal cord from the affected monkeys has shown, without exception, lesions similar to those of poliomyelitis in man. In some cases the lesions in the cords of monkeys could be detected by the naked eye.

The chart shows unmistakably that by employing the intracranial method of inoculation it is possible to carry the virus of epidemic poliomyelitis successfully through a series of monkeys. It is highly probable that the transmission may be carried on indefinitely. Should this expectation prove well founded, the outlook for securing a fuller understanding of the nature of this disease will be immeasurably improved.

It should incidentally be mentioned that not only is the spinal cord active, but the cortex of the brain also (Monkey 24). A delayed or unsuccessful inoculation may be converted into a successful infection by reinoculation with an active virus (Monkey 8).

It has long been supposed that epidemic poliomyelitis is an infectious disease. Its mode of spread certainly points to that view. A single successful inoculation with human virus could not establish the view, because the result might be due to a transferred toxic body. But now that successive transfer of the active agent of the disease has been accomplished, any doubt of its infectious origin can hardly be longer maintained.

The experiments with the virus of poliomyelitis are being continued, as is the search for additional evidences of its micro-organismal nature.[3] The complete protocols of the experiments here summarized and still other experiments will be published in a forthcoming issue of the *Journal of Experimental Medicine*.

* From the Laboratories of the Rockefeller Institute for Medical Research.

1. Landsteiner and Popper: Ztschr. f. Immunitätsforsch., Orig., 1909, ii, 377.

2. No reference will be made in this preliminary report to other varieties of animals employed.

3. A thorough search for bacteria by cultural and other methods was made in 1907, and again this year, but none that could be viewed as the causative agent has been discovered.

RUPTURED EXTRA-UTERINE PREGNANCY

ERNEST F. ROBINSON, M.D.
KANSAS CITY, MO.

This case is deemed worthy of record for four essential reasons:

1. It emphasizes in a most striking manner the importance of delaying operation until reaction from shock has occurred in critical cases of ruptured tubal pregnancy.

2. It calls attention to the fact that simple means can often be utilized to promote this reaction.

3. It presents an example of the grave complications that may be encountered in operating in such cases.

4. It further illustrates the wisdom of not irrigating or flushing out the peritoneum with water or salt solution in severe hemorrhage, reliance being placed simply on the non-toxic properties of serum, after the rapid removal of the blood-clots.

History.—The patient, Mrs. G., aged 28, the mother of one child 7 years old, had had one miscarriage after exertion four years before the present illness. On March 3, 1909, I was hastily called by the attending physician (Dr. George C. Mosher) in the evening. While quietly seated at the table two hours before, the patient had been suddenly seized with great pain in the abdomen, and immediately fainted. No pulse was perceptible at the wrist. The patient was barely conscious and almost exsanguinated. Cold perspiration covered the face and her appearance was that of one moribund. The family fountain-syringe was at once scalded out; the tip of a glass pipette used in filling a fountain pen was boiled, also one dram of salt and a few pocket instruments. Two quarts of hastily made physiologic salt solution were thrown into the basilic vein of the arm. Strychnin and atropin were given hypodermically. Improvement was immediate. After twelve hours, normal saline enemas were begun every four hours. Nothing could be retained by the mouth on account of the great nausea. The patient continued to improve in the quality and frequency of the pulse for about eighteen hours. Then evidence of fresh hemorrhage appeared, produced probably by a movement of the bowels, the result of an improperly administered nutrient enema. The pulse rose from 108 to 118, and "air-hunger" and restlessness returned.

Operation.—Immediate operation was now decided on, as the pulse, while rapid, was of very fair quality. Operation was performed at the house to avoid the risk of additional hemorrhage incident to the patient's removal to a hospital. Incision was made in median line. An enormous amount of free blood and clots were encountered. This was rapidly sponged away. Clamps at once secured the blood-supply of the gestation sac. This was about the size of an orange, and was in reality a left tubal abortion; the fetus of about one month had been expelled and lay in the abdominal cavity. While there was free and active bleeding at the time of operation, it apparently was the result of the movement of the intestines just prior to operation. After the removal of the sac, blood-clots, and free blood, an examination of the pelvis was made and an enormous cyst of the broad ligament encountered, together with a large hydro- and hematosalpinx of the right tube. The cyst occupied the right broad ligament and completely filled the pelvis. It was probably of several years' standing. Its removal was difficult because of the broad attachment of the base and right side of the cyst to the pelvic floor. The abdomen was closed, with drainage, and without abdominal flushing. During the operation the pulse became imperceptible and one pint of physiologic salt was given by hypodermoclysis and one quart was placed in the rectum while the patient was still in the Trendelenburg position.

Recovery was rapid and uneventful.

Referring briefly again to the treatment of these cases, as exemplified in this report, I wish to emphasize, first, the importance of delayed operation. I am confident many women with ruptured tubal pregnancy have lost their lives because of the wide-spread belief that immediate operation is always necessary in such cases, irrespective of the general condition of the patient. Formerly we have violated every tenet and principle of common sense and surgical judgment in submitting these profoundly shocked patients to the additional depression of an immediate operation.

Nature's method of stopping hemorrhage is clot formation, aided by absolute rest and a depressed circulation even to the point of syncope. Hunter Robb, Simpson and others have recently shown that such patients rarely primarily bleed to death. The latter is convinced that if death is to occur from hemorrhage it will result long before any operation for its relief can be undertaken.

My own experience causes me to hold the same opinion. In the case reported, active bleeding had entirely ceased once and had recurred, I am convinced, only as the result of the movement of the intestines. Also some recent hemorrhage in such cases is undoubtedly produced by the scrubbing preliminary to operation.

It is also evident in many of them (Hunter Robb) that active bleeding during operation is due to the operative manipulation at the time and occurs after the abdomen has been opened.

The second point emphasized is the use of the pipette and fountain syringe for giving intravenous infusion. Such articles can nearly always be found in any home and can be prepared without delay. On several occasions in conditions of great shock I have found their use a life-saving measure, even in cases in which the circulation was so slow that hypodermoclysis was useless.

Every abdominal surgeon of experience has had the fact again and again impressed on him that one cannot tell what is in an abdomen until one looks. The large cyst with its tubal complication in this case furnishes an impressive example. Prior to operation this mass was thought to be the gestation sac. In addition to the use of saline by hyperdermoclysis in this case, the rectum was filled with the same solution (after the manner of Dr. John C. Clark) during the operation, and this measure, I am confident, contributed in no small measure to the fortunate issue.

There is no department of surgery, I believe, that has undergone such a radical evolution in the past ten years as the treatment of peritoneal conditions. Since Murphy's epoch-making paper on the "Treatment of Peritonitis," we have awakened to the realization that lymph means protection rather than infection, and that to remove it whether by gauze or flushing means to remove Nature's protective barrier and to thus open the way for infection.

The practice of flushing the abdomen with quantities of water or salt solution is a thing of the past—certainly in cases of simple hemorrhage—and must take its place in history along with our theories of blood-letting, humoral diseases and "spontaneous generation" of infection.

603 Bryant Building.

Prevention of Infant Mortality.—Every influence which tends to decrease maternal nursing tends to increase infant mortality. For our purposes then it is necessary to seek out and to remove every influence which acts to prevent mothers from nursing their infants, whether that influence be sickness and fatigue; the pressure of poverty, necessitating that the mother return to work at the earliest possible moment; the demands of society; the advice of the ignorant, meddling, busybody neighbor; or whatever other cause may obtain.—J. M. Connolly in *Hygiene and Physical Education.*

ERYSIPELAS AND MENINGITIS IN AN INFANT TREATED WITH HEXAMETHYLENAMIN: RECOVERY

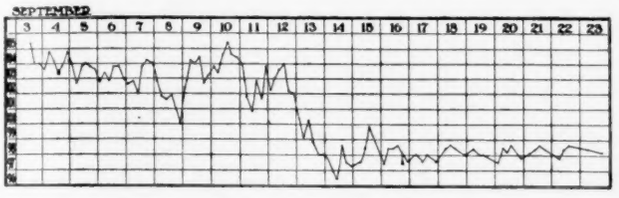
HUBERT N. ROWELL, M.D.
Lecturer on Pediatrics, College of Physicians and Surgeons
BERKELEY, CAL.

That hexamethylenamin manifests antiseptic properties in the meningeal fluid seems to have been fully demonstrated. Crowe[1] reports a case of cerebrospinal fistula in which, at the suggestion of Dr. Cushing, hexamethylenamin was administered for its antiseptic effect and the patient recovered.

By a modification of Hehner's test it was found by lumbar puncture that hexamethylenamin is invariably present in the cerebrospinal fluid in from one-half to one hour following its administration.

Having this recent discovery in mind, I applied it in the following case:

Betty O., aged 19 months, was first seen August 30, with a small abrasion on the left leg, having the appearance of a bite which had been aggravated by scratching. The following day an erythema occurred, spreading rapidly up the leg and thigh and accompanied by a temperature of 103.5 F. The erysipelatous character of the eruption soon became unmistakable, spreading up the lumbar and dorsal regions crossing over to the right leg and thigh.



Temperature chart of infant, 19 months old, with erysipelas and meningitis, treated with hexamethylenamin.

September 3 (three days later) marked cerebral symptoms developed, the temperature rising to 105.5, and well-pronounced opisthotonos was noted, with rigidity of the cervical region. The pupils were enormously dilated. The picture was a clear one, and Dr. Charles A. Dukes of Oakland was called in consultation, who verified the diagnosis.

Recalling Dr. Crowe's experiment, I ordered hexamethylenamin in one-grain doses every four hours. Its administration was begun September 4, and within twelve hours, as will be seen in the chart, the temperature began to fall.

The spinal rigidity gradually disappeared, and while the erysipelatous process was somewhat prolonged, the meningeal symptoms became less apparent daily until now, October 1, the child, while weak, is keenly alive to its surroundings and walks about the room without assistance.

To us who are accustomed to fatal results in meningitis this case has been thought worthy of mention in its relation to the administration of hexamethylenamin.

Hole-Traps for Mosquitoes.—A French army officer in Africa noticed that numbers of mosquitoes issued toward sunset from the crab-holes in the ground. The only empty ones were those which permitted the entrance of sunshine or the breeze. He consequently made a number of similar holes to attract the mosquitoes and destroy them. The holes must be slanting, forming an acute angle with the surface, nearly half a yard deep, and with a narrow rectangular opening about an inch in diameter, opening directly opposite the prevailing breeze and never getting a ray of sunlight at any moment of the day. The mosquitoes seek these holes after 8 a. m. The success of these hole-traps was so striking that he has made a somewhat similar wooden trap for use indoors.—*Hygiène Générale et Appliqué*, iv, 1909, p. 1511.

1. Crowe: Johns Hopkins Hosp. Bull., April, 1909.

Therapeutics

DIARRHEA

It is not proposed in this article to consider the etiology or treatment of a chronic diarrhea that is due to the various forms of enteritis, colitis, ulceration, tuberculosis of the bowels, or of a diarrhea that is caused by or concomitant with chronic organic disease.

A chronic looseness of the bowels cannot be satisfactorily or successfully treated unless its cause has been determined, and a splendid dissertation on the etiology of loose bowel movements was presented by Dr. A. D. Blackader, of Montreal, at the annual meeting of the American Therapeutic Society, held at New Haven in May, and whose paper appears in the *American Journal of the Medical Sciences*, October, 1909. Two or three daily, formed movements of the bowels in a person who has long had this habit cannot be considered pathologic, but unformed, watery movements, even if not more than one or two a day, must be considered abnormal, and such a character of the movements may be caused by a disordered normal function or by an actual pathologic condition.

Blackader tabulates the causes of looseness of the bowels as: "First, excessive propulsive peristaltic action. Second, an abnormal increase in the amount of secretion from the mucous membrane and secreting glands of the canal. Third, defective absorption. These may work in a vicious cycle.

"Increased peristalsis prevents absorption, and is often associated with increased secretion; increased secretion stimulates peristalsis and interferes with absorption; a defective absorption stimulates peristalsis, and is generally associated with some fault in secretion."

Peristalsis is caused by both mechanical and chemical irritation, and the more indigestible and the coarser the food eaten, the more peristalsis will develop. Stomach indigestion, allowing the development of a hyperacidity, or the expulsion of the stomach contents into the duodenum too rapidly or before the peptic digestion is completed, will stimulate peristalsis. Such maldigestion in the stomach will soon produce an irritability and subacute inflammation of the duodenum. This irritability also reflexly causes increased peristalsis.

Blackader well calls attention to the recognized, but often forgotten, nervous element in chronic looseness of the bowels. Nervousness, hysterical excitement, or worry can cause several or repeated watery intestinal evacuations. Fatigue, mental and physical, may cause incomplete normal absorption of the fluid contents of the colon, and the resulting movements will be watery.

Blackader thinks that an excessive amount of normal intestinal secretion is a factor in loose bowel movements. Of course, it is impossible, under the varying requirements to digest varying foods, to determine the exact amount of digestive secretion the stomach, liver, pancreas, and intestinal glands should produce, but normally these secretions are probably sufficient, and perhaps in excess of the amount required. But as the physiologic chemists have shown that one secretion stimulates another secretion, and that the products of one digestion stimulate other glands to produce their secretion, it is probable that over-secretion in one organ may cause disturbance of another. However, it is probable that excessive secretion of digestive fluids is a doubtful cause of watery diarrhea.

Any character of the contents of the intestines that causes the fluids to be unprepared for perfect absorption,

or that irritates the mucous membrane of the intestine sufficiently to cause a condition that might be inimical to normal absorption would, of course, be a cause of watery movements.

Certain chemical substances, notably the saline cathartics, tend to cause an excretion of water into the intestines, and the result from gravity alone is watery movements. Certain bacteria also have the power to cause osmosis of water into the intestines and an increased peristalsis, and until such bacteria are evacuated or eradicated the condition will continue.

Certain bacteria normally in the intestine seem necessary for perfect intestinal functions and processes, and they may even be necessary to combat abnormal or pathogenic bacteria that may pass unharmed through the stomach. But even these normally found microorganisms by varying conditions of maldigestion may assume a pathologic rôle, and looseness of the bowels be the first notification of such a disturbance. Probably no one cause is so prominent in allowing bacteria normally in the intestine to cause abnormal symptoms, as serious stomachic indigestion or an imperfect gastric juice.

Another frequent cause of looseness of the bowels is seen in serious organic trouble, most frequently from kidney and liver lesions, caused perhaps by an increased activity of the columnar cells lining the mucous membrane of the lower intestinal walls. These are always excreting cells, but they physiologically assume extra work if the kidneys and liver are unable to function normally. Before attempting to inhibit or stop watery diarrhea, it should be positively determined that such watery excretions are not needed to protect the blood from toxemia. In other words, serious organic lesions should be excluded.

Also, before beginning treatment for chronic diarrhea, not only must inflammatory lesions be excluded, if possible, but the evacuations should be studied macroscopically, and chemically and bacteriologically if the patient does not quickly improve, to determine what intestinal function is at fault and what food is maldigested or acts as an irritant, and hence should be avoided. Imperfect bile secretion should, of course, diminish the amount of fats allowed, and imperfect pancreatic secretion should cause the fats ingested to be reduced to a minimum.

Besides actual circulatory disturbances causing watery diarrhea, a not infrequent cause seems to be vasomotor disturbances or "vasomotor ataxia." In other words, an insufficient surface circulation, insufficient perspiration, and sensations of cold and chilliness may cause what has been termed intestinal sweating, and the patient has, on arising in the morning, one or more large watery stools. This may persist on any diet; in other words, it can rarely be cured by dietetic treatment.

It having been determined that the diarrhea is not due to the conditions mentioned in the first paragraph of this article, the treatment of a chronic looseness of the bowels may be considered as (1) physical, (2) dietary, (3) medicinal.

1. The physical treatment may be subdivided into: (a) Rest, either temporarily absolute, or, certainly, after each meal; (b) change of climate; (c) relief from business or household cares, which often can be accomplished only by sanatorium treatment; (d) the promotion of normal activity of the skin, accomplished by baths, friction, and electricity; (e) increased circulation in the muscles; brought about by massage, passive motion, and, later, by various gymnastic exercises, especially if the patient leads a sedentary life.

These physical treatments need only to be mentioned, and do not require description. Such treatment alone will often cure a diarrhea due to hysteria, neurasthenia, and vasomotor ataxia.

2. A careful study of the individual on ordinary, and then on limited diets, will often determine that there are one or more articles of food which increase indigestion and increase the tendency to loose movements of the bowels. Such articles of food must, of course, be, temporarily at least, prohibited. However, under most circumstances it is often best to put a patient on absolute milk diet for a week, and then gradually try the addition of different foods to the diet. Occasionally a strictly milk diet will not be tolerated; often it is advisable to add some alkali, as vichy or lime water, to each glass of milk. Occasionally it is advisable to boil the milk, and sometimes it may be necessary to peptonize it. This, however, is rarely needed. If the patient is an adult and is placed on an absolute milk diet, he should ordinarily not attend to his usual duties, but should be at rest. As above intimated, absolute rest in bed for from one to two weeks, on a corrected diet, will often start the patient toward recovery.

The first addition to the milk diet should be toast, eggs and raw scraped or chopped beef, or, if such uncooked meat is very disagreeable to the patient, the chopped beef may be slightly broiled. The future increase in the diet should be gradual and carefully selected for the individual patient.

3. Perhaps the most useful of all drugs in the treatment of this condition is bismuth, and there is no preparation of bismuth more satisfactory than the subnitrate. The two methods of employing this drug are either by very large doses, given once or twice a day, viz., from 2 to 3 grams (30 to 45 grains) at a dose, or by administering a 0.30 gram (5 grain) tablet, every three hours. If bismuth is used, it should not be continued for more than a week without intermission, as it tends to form scybalous masses in the colon. It should also be carefully decided, during its long administration, if the movements of the bowels are complete and satisfactory, as a diarrhea may still leave masses of this salt in the intestines.

An antiseptic, such as phenyl salicylate (salol) may be given with benefit in doses of 0.30 gram (5 grains) three or four times a day. It may be combined with the bismuth, if desired. It should not be continued, however, more than a week, and if there is any albuminuria it should not be administered at all.

In some instances bicarbonate of soda seems valuable, and the dose would be 0.50 gram (7½ grains) three times a day. Large doses of an alkali are rarely advisable. Sometimes the opposite is indicated, viz., dilute hydrochloric acid. This is especially advisable if it has been determined by examination of the contents of the stomach, or inferentially, that the hydrochloric acid is insufficient. Dilute hydrochloric acid in a dose of ten drops, in water, after meals, will certainly often aid stomach digestion and prevent diarrhea.

The most valuable astringent for the intestines, if one is needed, is a preparation of tannic acid. None of the other vegetable astringents act so well, and most of them are very disagreeable to take and cause stomach indigestion. Tannic acid as such is also irritant to the stomach and, therefore, inadvisable. One of the many organic combinations of tannic acid seems to be the best manner to administer this drug, and the dose of most of them is about 0.50 gram (7½ grains), administered in capsule if desired, and given three or four times in

twenty-four hours. These organic preparations do not cause stomach indigestion, and give up the tannic acid gradually throughout the intestines, and the astringent action is the one desired.

Quinin seems to have many times a specific action in the intestine, not only as an antiseptic and tonic, but really seems often to alone inhibit looseness of the bowels. The dose should be fair sized, but not enough to cause disagreeable head symptoms.

As most of these patients are anemic, and as iron is an astringent, iron is certainly indicated in almost every instance. The best preparation is naturally an astringent one, and the sulphate of iron, in capsule, in a dose of 0.20 to 0.25 gram (3 to 4 grains), three times a day, after meals, is the preparation that is the most valuable.

New and Nonofficial Remedies

SINCE THE PUBLICATION OF THE BOOK "NEW AND NONOFFICIAL REMEDIES, 1909," THE FOLLOWING ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK ARE ASKED FOR.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(Continued from page 1563)

SULPHURATED POTASH — Potassa Sulphurata — Kalium sulphuratum crudum—Hepar Sulfuris.—Sulphurated potash is a mixture of salts of potassium, of which the chief are potassium sulphides (Br. Pharm., p. 259).

It is prepared as follows: Mix the powdered and dried potassium carbonate thoroughly with the sublimed sulphur, and gradually heat the mixture, in a covered crucible, which should be only about half filled with it, until the mass ceases to foam and is in a state of perfect fusion. Then pour the fused mass on a cold marble slab, and, after it has cooled, break it into pieces, and keep it in a well-stoppered bottle (U. S. P., 1890, p. 313).

When freshly prepared, sulphurated potassa forms irregular pieces of a liver-brown color, which, by exposure to the air, gradually absorb moisture, oxygen and carbon dioxide, and change to a greenish-yellow and finally to a gray mass containing potassium carbonate, thiosulphate and sulphate. The compound has a faint odor of hydrogen sulphide, and a bitter, alkaline taste.

Soluble in 2 parts of water at 15° C. (59° F.), with the exception of a small residue. Alcohol dissolves only the potassium sulphide, leaving the other constituents (thiosulphate and sulphate) undissolved.

The aqueous solution (1 in 10) is of an orange-yellow color, is strongly alkaline to litmus paper, and gives off the odor of hydrogen sulphide.

On adding to it acetic acid in slight excess, an abundance of hydrogen sulphide is evolved, while sulphur is precipitated.

In this liquid, after filtration, sodium bitartrate test solution produces an abundant, white, crystalline precipitate (U. S. P., 1890, p. 213).

On triturating 1 Gm. of sulphurated potassa with 1 Gm. of crystallized copper sulphate and 10 Cc. of water, and filtering, the filtrate should remain unaffected by hydrogen sulphide test solution, corresponding to at least 12.85 per cent. of sulphur combined with potassium to form sulphide (U. S. P., 1890, p. 313).

Actions and Uses.—Externally sulphurated potash acts as an irritant and softens the horny layers of the skin, acting especially on the hairs. Internally, it is a gastrointestinal irritant and is believed to be an alterative. In some cases it has produced severe poisoning from the amount of hydrogen sulphide evolved. It is employed externally[1] as a local irritant in various skin diseases and as a parasiticide.

1. In view of the uncertainty of the composition of sulphurated potash and of the fact that it sometimes exerts a poisonous action, it is deemed suitable only for external use

ETHYL BROMIDE—Aethylis Bromidum.—Aether Bromatus (Pharm. Germanica, edit. 4; Pharm. Belgica, edit. 4; Pharm. Helvetica, edit. 4). Aethylium bromatum (Pharm. Française, 1908).

Ethyl bromide, C_2H_5Br, is the ethyl ester of hydrobromic acid, containing approximately 1 per cent. ethyl alcohol.

Ethyl bromide is a colorless, strongly refractive, easily volatile liquid, having a pleasant ethereal odor. It is insoluble in water, but readily soluble in acohol and in ether. It boils at from 38° to 40° C (101° to 104° F). Its specific gravity at 15° is 1.453 to 1.457 (Pharm. Germanica).

It is stable when pure but when contaminated with ethyl iodide it becomes colored when exposed to light. It burns with difficulty. It is very difficultly saponified by potassium hydroxide and it is not attacked by sulphuric or nitric acids. Silver nitrate gradually precipitates silver bromide (Pharm. Francaise 1908). If a mixture of 1 Cc. ethyl bromide, 5 Cc. alcohol and 10 drops of (15 per cent.) sodium hydroxide solution is heated to boiling, cooled, acidified with dilute sulphuric acid then shaken with chloroform and chlorine water added a brown coloration will be produced in the chloroform layer. If equal volumes of ethyl bromide and sulphuric acid are shaken together in a bottle previously rinsed with sulphuric acid and closed with a glass stopper, the acid should not be colored yellow within an hour. After shaking equal volumes of ethyl bromide and water, no change of volume should occur in the two liquids, the water separated from the ethyl bromide should not have an acid reaction nor should it become turbid immediately on the addition of a drop of silver nitrate solution (Pharm. Helvetica).

When a small portion is evaporated from a porcelain plate by causing it to flow to and fro over the surface little or no foreign odor is yielded as the last portions pass off, and the plate is covered with a slight deposit of moisture.

1 Cc. of ethyl bromide mixed with 3 drops of anilin and 2 Cc. of alcoholic solution of potassium hydroxide should not give off the odor of isonitrile even after warming. (Absence of chloroform) (Pharm. Belgica).

About 1 Gm. of ethyl bromide accurately weighed added to 30 Cc. of 80 per cent. alcohol containing 2 Gm. silver nitrate will precipitate, after several hours, silver bromide, which when washed and dried should weigh 1.72 for each Gm. ethyl bromide used (Pharm. Francaise).

Action and Uses.—Ethyl bromide is a rapid anesthetic, acting much like chloroform. The anesthesia is quickly and pleasantly induced and the recovery is rapid, but subsequently the patient may have general mild depression. Pain is abolished before consciousness. The respiration is paralyzed at about the same time as the reflexes, so that the zone of safety is very narrow. Tetanic spasms have occurred. Deaths were formerly attributed to impurities, but several have occurred when a pure article was given. It has been recommended for short operations in obstetrics, gynecology and minor surgery, but is not to be used for long operations. It must be regarded as a very dangerous agent in inexperienced hands.

Dosage.—3 Cc. to 12 Cc. (45 minims to 3 fluidrams) is sufficient to induce anesthesia. It should be administered rapidly with little or no air. The administration requires from 20 to 40 seconds; the anesthesia lasts about two minutes. The dose for children should not exceed 1 Cc. per year of age.

It should be protected from the light and a bottle once opened should be used at once as it deteriorates rapidly. (To be preserved carefully in small, opaque bottle containing not more than 50Cc. Pharm. Helvetica edit. 4.) It should not be confounded with ethylene bromide, which is said to be very poisonous. The Sp. Gr. of ethylene bromide is 2.179 while that of ethyl bromide is about 1.45.

(To be continued)

Serotherapy of Metrorrhagia—A Correction.—The bad habit of one journal's "borrowing" an article from another journal without any credit being given to the source, or anything to show that the article is not original, is responsible for a blunder into which THE JOURNAL was innocently led in an abstract of an article by E. Nuñez, appearing in the June number of the *Semana Medica*, a Buenos Aires exchange. It commenced with the words: "It is very common in our country to encounter, etc." THE JOURNAL naturally supposed the country in question was Argentina, but found later that the article was "borrowed" entire from the *Revista de Medicina y Cirugia*, of Havana, Cuba, where Dr. Nuñez is professor of gynecology. He is also on the editorial staff of our Havana exchange, and his article appeared in its issue of April 10, 1909. The country referred to is therefore Cuba, not Argentina, as erroneously stated in the abstract of THE JOURNAL on page 1401.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

[*For other information see second page following reading matter*]

SATURDAY, NOVEMBER 13, 1909

CESARE LOMBROSO

There are some men whose task it is to gather, to grind and to sift facts for scientific pabulum; and there are others whose function it is to furnish the leaven. Of the latter class was Cesare Lombroso, who died last month within a few days of his seventy-third birthday.

Lombroso was born in 1836 of Venetian parents. Like most men of genius, he displayed remarkable intellectual power and originality long before his majority, and to the end of his life his mind was in constant ferment with new ideas. His youthful studies ranged over archeology, the natural sciences, poetry and history, and a natural bent carried him into the ranks of students of medicine. In 1859 he became a soldier and later an army surgeon. From the year 1862, while instructor in mental diseases at the University of Pavia, he conducted clinical investigations of insanity and collected materials for a museum. As director of the hospital for the insane at Pesaro he improved the methods and established a journal written and managed by the insane. He returned to Pavia after a time and continued his precise methods of studying the insane, using and even inventing modern instruments for his purpose. He was stimulated and guided by the genius of Broca and Virchow, and the studies of Darwin seem to have suggested his atavistic interpretation of crime. It was in 1859 that the essential ideas of his great work, "L'Uomo Delinquente," came to his mind, but not until 1870, during his examination of the skull of a brigand, that he applied the theory of atavism in explanation. After several years of labor in studying the characteristics of prisoners in Italian prisons he published some of the results in 1876. This epoch-making work has been revised and fundamentally altered in succeeding editions. His book on "The Man of Genius" saw the light in 1889. In his later years Lombroso was a professor of forensic medicine and psychiatry in the University of Turin. His personal appearance, his oddities of manner, his kindliness are topics for gossip or serious biographies; his place and service as a man of science are of chief interest here.

Lombroso approached the study of the criminal as a physician and anthropologist, and it was natural that he should lay great emphasis on biologic factors. Too great praise cannot be given him for his minute and painstaking collection of observations of the anatomic, physiologic and psychical characteristics of offenders. He compelled the world to study the antisocial man with all the methods and instruments invented by modern science. He made it forever impossible to return to the traditional legal attitude toward the criminal. He sought in the phenomena of life, and not in ancient decisions framed in the dim twilight of history, the real facts with which penal law and criminal courts and correctional institutions have to deal. With Lombroso's metaphysical system we need not be concerned; he left the controversy over fate and freedom where it was before. His attempt to identify the "criminal born" with the primitive savage was only partly successful, but it brought one element of explanation into prominence, and no student can henceforth ignore atavism as a probable factor in causation. When the fierce arrows of criticism drove him from his too narrow ground he candidly admitted other factors, as arrested development and degradation of tissue and hence of character. As he poured out monographs, articles and volumes, his own mind traversed wider fields of observation and reflection; his anthropologic discoveries revealed the necessity of studying normal types, and thus he passed over to the ranks of the sociologists. His later writings emphasized the causal factors found in the perverting influences of unfit dwellings, occupational diseases, alcoholism, vice, irrational legislation, defects in penal law, courts and prisons. Among the important services to medicine and humanity which Lombroso rendered toward the end of his life may be reckoned his valuable studies on pellagra and its causes.

Perhaps it is too early to assign Lombroso's true place in history. Certain great lawyers, especially in Germany, deny that he and his pupils have added any knowledge of value to a lawyer. Mantegazza declared that he did not possess any of the qualities of a scientific investigator. Colojanni compares Lombroso's indiscriminate collection of facts to the famous order attributed to Charles IX or some persecuting ecclesiastic: "Kill them all; God will know His own" (Ellis). Perhaps the man of genius is too quickly enchanted by the brilliance of his hypothesis, is invariably urged to establish it at any cost, and is not quite patient enough to wait and to compare facts of a different order.

Grant all that is reasonable to such criticisms, it remains true that Lombroso, by sheer force of scientific investigation and unwearied activity, revolutionized the study of abnormal man, and especially the criminal, and the social treatment of crime will be improved in consequence of his discoveries and even his speculations.

In America these speculations have been received generally in a critical spirit, and have obtained no important following. The criticisms of F. H. Wines and others have had a sobering effect and secured a balanced judgment and wholesome suspense. But the scientific observation of the criminal himself has been quickened, and even in law schools has begun to influence conservative thought. It is now more frequently admitted than for-

merly that the nature and social attitude of the offender should be made the center of interest rather than statutes made in ages of ignorance and decisions pronounced before the science of anthropology was born. The new society known as the Institute of Criminal Law and Criminology, founded by open-minded lawyers of unquestioned standing and training, bears witness to the practical value of these studies with which the name of Lombroso will ever be indissolubly linked.

Von Liszt[1] may be taken as a type of the progressive jurists who recognize the necessity of individual and social study of crime causes, who reject the notion, on which Lombroso sometimes laid so much stress, that the criminal born constitute, as it were, a separate variety or type of humanity. Von Hamel[2] recognizes the importance of the Italian investigations, but questions the finality of their interpretations and recommendations. No important systematic work on criminology can hereafter ignore the significance of Lombroso's studies. The career of Lombroso shows that the social control of antisocial forces must command the united efforts of lawyers, physicians, anthropologists and sociologists in order to be effective.

THE MEDICAL PROFESSION AND THE PHARMACOPEIA

A thoroughly up-to-date Pharmacopeia—one which will truly reflect the best medical practice of the present time—will contribute more to sane drug therapeutics than any other one thing. It is a question, therefore, that should be considered seriously and without further delay, since the time for the convention that is to decide the policy on which the next revision is to be made and who shall be in control is rapidly approaching. In THE JOURNAL last week,[3] Sollmann put the question squarely before the medical profession: "If the Pharmacopeia is not and cannot be made practically important to the physicians, then let us abandon it altogether." It is needless to say that not many physicians would seriously entertain the suggestion of abandoning the Pharmacopeia; yet the attitude of indifference shown by the profession in general in connection with the last pharmacopeial convention was almost equivalent to abandoning it —so far as medical men were concerned.

In order to make the Pharmacopeia a more useful book, however, it is necessary to break what Sollmann so aptly terms a "vicious circle": "Physicians take no interest in pharmacopeial revision, because the Pharmacopeia does not represent their vital interest; and the Pharmacopeia does not represent their interest because they take no interest in its revision." The question of vital importance now is how can this vicious circle be broken? Physicians who have given the matter serious thought believe that important changes are required; it is necessary, therefore, that the delegates of the medical profession to the next convention should inform themselves specifically as to the needs, direction and aim of pharmacopeial revision. Sollmann makes a number of pertinent suggestions on this subject which should be carefully studied by all, and especially by those who will represent the medical organizations at the next convention.

The carrying out of some of the suggestions (the method of selecting the Committee on Revision, for example) would involve certain changes in the present by-laws of the convention; these should, of course, receive most careful consideration. But the present by-laws state that "the Committee on Revision shall execute such orders or resolutions as have been assigned to it by the convention," and it is in this manner (as well as in the collecting of data for the committee) that the delegates can make their influence felt without any change in the present by-laws. Among the subjects of most medical interest on which the committee might be positively instructed, the following are suggested: standards for admissions, elimination of all secrecy, frequency of revision and the issue of supplements, and the question of doses. It is highly desirable that delegates and prospective delegates pay especial attention to these questions.

Attention may again be called to the conditions of medical representation in the Pharmacopeial Convention of 1910. In addition to the delegates appointed by the Army, Navy, and Public Health and Marine-Hospital Service and by the American Medical Association, incorporated medical colleges and medical schools connected with incorporated colleges and universities, and incorporated state medical associations, provided they "shall have been incorporated within and shall have been in continuous operation in the United States for at least five years before the time fixed for the decennial meeting of this corporation," are each entitled to three delegates, elected in the manner they shall respectively provide. There are also a few organizations not hereinbefore mentioned, admitted to representation in the convention of 1900, which are entitled to send delegates.

We again urge that county and other medical societies should take up the subject, discuss it thoroughly, and make their wishes known by resolutions or otherwise. The U. S. Pharmacopeia was originally created and kept up by physicians. Let us at least take sufficient interest in it to make it as near what we want as is possible under present conditions

THE CONFERENCE ON PELLAGRA

We devote considerable space this week to our report of the Conference on Pellagra, which was held last week at Columbia, S. C. Approximately six hundred physicians from all over the United States attended the meeting, and the manifold aspects of pellagra were discussed at great length. Unusual interest was shown throughout the deliberations of the conference. One striking

1. Von Liszt: Lehrbuch des deutschen Strafrechts, 1908.
2. Von Hamel: Inleiding tot de studie von het Nederlandsche Strafrecht, 1907.
3. THE JOURNAL A. M. A., Nov. 6, 1909, liii, 1543.

feature was the purely scientific, humanitarian spirit which pervaded the meetings and which influenced those who took an active part in the proceedings. There was no disposition displayed to seek personal gain or aggrandizement. It seemed that every delegate had come with a desire to learn more about this disease[1] which has been attracting the attention not only of the medical profession of the world, but of the laity.

The conference assumed both a national and an international character, in that some of the papers read were contributed by distinguished foreign physicians and scientists who are authorities on pellagra. There was an abundance of clinical material presented, but a seeming lack of bacteriologic study of the disease, from which more is to be expected in the future. The federal government, keenly alive to the vast importance of the subject, sent leading men who represented not only the United States Public Health and Marine-Hospital Service, but also the Army and the Navy.

In considering the cause of the disease, the central thought which ran through all the discussions was that the etiology is not known, but that damaged corn or maize is only one factor in the causation of the disease. The prevailing views were presented by Dr. Byrd, of Jacksonville, Fla.: "If there is any one thing that has been impressed on me at this conference, it is that we do not know the etiology of pellagra. . . . Is it a safe thing, in the present state of our knowledge, for us to put ourselves on record that corn is the cause of pellagra? I contend it is not. It is better for us to say, 'We do not know.' This is a scientific question, and we ought not to accept anything short of absolute proof which the most exact science can give. So far as corn as a cause of the disease is concerned, we can say it is unproved." It is hoped that the prosecution of further research in regard to the etiology of the disease will yield such results that this honest confession of ignorance will not have to be made much longer.

Credit is due Dr. J. W. Babcock, superintendent of the State Asylum at Columbia, to the members of the State Board of Health of South Carolina, and to Dr. C. F. Williams, for calling this national conference to discuss this very vital topic.

THE TRANSMISSION OF ACUTE POLIOMYELITIS TO MONKEYS

In a recent comment[2] on the transmission of acute poliomyelitis to monkeys, by Landsteiner and Popper, we stated that, while further experiments were necessary, it seemed that a method had been found by the help of which our knowledge of the cause of poliomyelitis would be advanced. The report by Flexner and Lewis in this issue of THE JOURNAL, showing their success in transmitting acute poliomyelitis to monkeys and of maintaining the disease in those animals, is of great interest in this connection. Landsteiner and Popper failed in their efforts to communicate the disease from monkey to monkey, possibly because of the method employed. Flexner and Lewis, using the intracranial method of inoculation, have established that it is possible to carry the virus of epidemic poliomyelitis successfully through a series of monkeys, and it seems likely that the disease may be maintained in this animal indefinitely. This advances greatly the opportunity for successful study of the causation and prevention of epidemic poliomyelitis, which causes much permanent crippling and distress in addition to many deaths. At the same time there now can be no doubt any longer as to its infectious origin, because it is possible to transfer it from animal to animal, a result that could hardly be expected if the disease were due solely to the action of a toxic body, as suggested by some writers.

THE TREATMENT OF LEPROSY WITH NASTIN

Any hopes that were based on the employment of nastin, a bacterial fat recommended by Deycke Pasha and Reschad Bey in the treatment of leprosy,[1] fail to find support from the experiences of Dr. Walter R. Brinckerhoff and Dr. James T. Wayson with six cases, three of the tubercular type and three of the tuberculo-anesthetic type, treated in Hawaii, and reported in a recent brochure[2] issued by the U. S. Public Health and Marine-Hospital Service. The patients were all males between 10 and 40 years of age. The treatment was continued for periods of from five to fifteen months. It was found that the prolonged administration of small doses had no apparent effect on the progress of the disease, while larger doses caused such muscular pain as to necessitate a reduction in dose or discontinuance of the treatment. In three cases studied from this point of view no change was found in the distribution of the acid-fast substance of the bacilli before and after nastin medication. Slightly encouraging results were obtained in two cases, the lesions in one decreasing in extent and assuming a focal character, and a tubercle disappearing in the other. Four patients seemed to be unaffected by the treatment. Constitutional reaction was noted only when the dosage employed was large, but no local reaction or puriform softening of tubercles was observed. It is true that the number of patients treated was small, but the observations were carefully made by competent investigators, and the results must be considered as far from encouraging. It appears, then, that we must be content with present methods of treatment until something more promising is brought forward.

The Up-to-Date Physician.—The up-to-date physician has a mind receptive to truth from any source. He must have the power of exclusion and inclusion. He should be a rational skeptic, believing nothing, and yet believing everything—pessimistic only as to the possibility of failure; optimistic in a degree only limited by the limitations of finite knowledge.—C. D. Mills, in *Ohio State Medical Journal.*

1. Those interested in the subject of pellagra no doubt will appreciate having their attention called to the Department of Queries and Minor Notes in this issue, in which we give, in answer to a correspondent, a list of some articles which have appeared on the subject.
2. THE JOURNAL, June 19, 1909.

1. Deycke Pasha and Reschad Bey: A Bacterial Fat as Immunizing Substance in Leprosy; Its Theoretic Significance and Practical Application, Therapist, London, 1907, xvii, 49, 67, 79.
2. Brinckerhoff, W. R., and Wayson, J. T.: A Report of the Treatment of Six Cases of Leprosy with Nastin (Deycke) Studies on Leprosy, Government Printing Office, 1909.

Medical News

CALIFORNIA

Tag Day.—October 2, which was celebrated as tuberculosis tag-day in Berkeley, netted the workers $2,900, which will be applied to a fund for the purchase of a site and the building of a hospital in West Berkeley.

New Case of Plague.—The third case of bubonic plague contracted by a human being in the state during the last three months, was reported to the State Board of Health Nov. 6, from Oakland. The victim is a butcher who became infected through eating squirrels.

Health Officers' Meeting.—At the semi-annual meeting of the Southern California Health Officers' Association, held in Hanford, October 12, Dr. Samuel W. R. Langdon, Stockton, was elected president; Dr. Asbury N. Loper, Dinuba, vice-president; and Dr. George A. Hare, Fresno, secretary-treasurer.

Hospital Board Reelected.—At the annual meeting of the Peninsula Hospital, Palo Alto, the following were reelected directors: J. A. Dunker, Alfred Seale and Miss Elizabeth Hogue, and Drs. Thomas M. Williams, Samuel B. Van Dalsem, Harry B. Reynolds and Josiah H. Kirk. Dr. Williams was reelected president of the board.

Oppose Unlicensed Japanese Practitioners.—Plans are being prepared by the State Board of Medical Examiners for the vigorous prosecution of Japanese who represent themselves as physicians and practice without license. Through its secretary, the board has written the Japanese consul and the Japanese Association of America, soliciting their support in the suppression of the alleged frauds.

Lectures on Physiology.—Sir Augustus Waller delivered a series of lectures on the Hitchcock foundation at the University of California, beginning September 18. The subject of his lectures was "Physiology the Servant of Medicine," in which he considered electrical signs of life; the general methods of investigation; the first and last signs of life; electrical action of the human heart; the normal rhythm of the hearts of the canidae; the nervous system; the electrical responses of nerve, of muscle, of the retina, and the brain; the law of sensation; the sigmoid curve; the relation between energy expended and result acquired; vegetable alkaloids; the axiom of general physiology; the application to human life; blaze currents, the retina, green leaves, petals of a flower; our fish supply; awakening of a dormant embryo; blaze current of the egg, of the seed; alcohol, chloroform, and ether, and their physiological equivalents; the price of anesthesia; the lethal chamber in men, and in animals, and the chloroform balance.

CONNECTICUT

Bequest to Yale.—By the will of the late Levi I. Shoemaker, Wilkes-Barre, Yale University is bequeathed more than $500,000 on the death of the testator's wife, for the use of the medical department of the university.

Sanatorium Site Bought.—A site of fifty-five acres in the town of Huntington, near Shelton, for the Fairfield County Antituberculosis Sanatorium, was purchased by the State Antituberculosis Commission, October 14. Plans for the construction of the building are under way. It is believed that accommodation for 200 patients will be ready by the opening of spring.

Report of the Gaylord Farm.—The fifth annual report of the New Haven County Tuberculosis Association shows an extensive growth during the past year. Two new buildings have been added to the Gaylord Farm, the Beebe Memorial, and a residence for Dr. David R. Lyman, New Haven, medical superintendent. During the year the average number of patients was 54. The dispensary of the institution during the year treated 120 patients in New Haven, of whom the majority have materially improved.

Anti-Spitting Law in Effect.—Two laws enacted by the last general assembly, along the line of public health, became effective October 1. The first requires any physician who may discover a case of tuberculosis to report it to the health officer of the town within which it occurs within twenty-four hours. The second provides a fine of not less than $1 and not more than $5 for any person who "shall spit on the paved walk of any public street, park or square, or on the floor of any hall or office in any hotel, restaurant, apartment house, tenement or lodging-house which is used in common by the guests or tenants thereof, or on the platform, steps, or stairs in any public building, church, theater, railway station, store, factory or street-car or other public conveyance."

ILLINOIS

The Red Cross Work this Year.—The Illinois Branch of the American National Red Cross closed for the fiscal year October 31. The report of the treasurer shows that $95,192.72 had been received from the public and used in the charitable work of the organization, and that the total administrative expenses were $126.78.

Personal.—Dr. Elva A. Wright, Lake Forest, has returned after a summer abroad.——Dr. Frank Buckmaster, Effingham, has been made instructor in experimental surgery in Barnes Medical College, St. Louis.——Dr. Clarence W. Chapin, Weldon, has succeeded Dr. Guy D. Dowdall, Clinton, as president, ad interim, of the Dewitt County Medical Society.——Dr. John C. Augustine, Batavia, was operated on in Chicago for the removal of enlarged glands of the neck, November 1.

Free Diphtheria Antitoxin.—The State Board of Health announces that it will furnish diphtheria antitoxin of the highest quality without charge in cases of necessity, the only requirement being that the physician who obtains the antitoxin will give a receipt for it and will furnish the State Board of Health a clinical report concerning the patient to whom the antitoxin was administered. The state distribution was made possible by the appropriation passed by the last general assembly.

Elections.—At the sixty-third annual meeting of the Æsculapian Society of the Wabash Valley, held in Paris, October 31, the following officers were elected: President, Dr. Elmer B. Cooley, Danville; vice-president, Dr. Paul A. Slater, Hindsboro, and secretary-treasurer, Dr. Herbert N. Rafferty, Robinson (reelected).——At the annual meeting of the Elgin Physicians' Club, November 1, the following officers were elected: President, Dr. Edwin A. McCornack; vice-president, Dr. John F. Bell; secretary-treasurer, Dr. Jane C. Trull, and executive committee, Drs. Dwight E. Burlingame, Frederick C. Schurmeier, Elgin, and Harry E. Kerch, Dundee.——The Bushnell Doctors' Club resumed its weekly meetings October 25, and elected Dr. John P. Roark, president, and Dr. Clement J. Rider, secretary-treasurer. The club has taken up the post-graduate course of study suggested by the American Medical Association.

Chicago

Suabian Donation.—Out of the proceeds of the annual volkfests of the Schwaben-Verein, $1,150 has been donated to the various hospitals of the city.

Personal.—Dr. George G. Zoehrlaut has been elected supreme editor of the Phi Beta Pi medical fraternity.——Sir Wilfred T. Grenfell, M.D., of Labrador, delivered an address on the subject "Is Life Worth While" before the Sunday Evening Club, November 7.——Dr. and Mrs. Fenton B. Turck and Dr. Joseph Zeisler and family have returned from Europe.

INDIANA

Hospital Incorporated.—The Kosciusko Hospital has been incorporated at Warsaw with a capital stock of $25,000, with the object of constructing and operating a hospital.

Gift to Tent Colony.—Hon. John W. Boehne, Evansville, has given the Evansville Antituberculosis Society $5,000 toward the establishment of a tent colony for tuberculosis near that city.

Smallpox in Fort Wayne.—On account of the prevalence and spread of smallpox in Fort Wayne, the board of public health has decreed that every public and parochial school child in the city and every employee in the Pennsylvania System shops must be vaccinated immediately.

Personal.—Dr. Francis W. Johnson, Utica, is undergoing treatment in the Jeffersonville Hospital for disease of the throat.——Dr. Samuel E. Smith, Richmond, superintendent of the Eastern Indiana Hospital for the Insane, was elected president of the Associated Charities and Corrections of Indiana, at its eighteenth annual meeting in Columbus, October 26.——Dr. Charles P. Melroy, Otisco, accidentally shot himself in the thumb, October 31.

New Health Board Law.—The new law governing county and city health officers provides that the county health officer shall be elected by the board of county commissioners, and serve for one year, with a salary of $200 per year, to be paid quarterly, with additional payment for attendance on cases of infectious diseases, quarantine, fumigation, etc. In cities of less than 30,000 inhabitants, the office of county and city health officer may be consolidated by agreement.

IOWA

State Sanatorium.—Dr. Harry E. Kirschner, superintendent of the State Sanatorium for the Treatment of Tuberculosis, Oakdale, announces that the new building of the sanatorium, which will be ready for occupancy about the middle of December, will increase the capacity of the institution to 120.

Personal.—Dr. Herbert V. Scarborough, Grand Junction, has been appointed assistant superintendent and physician at the State Sanatorium for the Treatment of Tuberculosis, Oakdale. ——Dr. John E. Howe, Greenfield, has been appointed a member of the state board of pardons and parole, vice Dr. Joseph M. Emmert, Atlantic, deceased.——Dr. Will Bryan, formerly of Cedar Rapids, has been appointed second assistant physician at the State Institution for the Insane, Clarinda.——Dr. James M. Donelan, Glenwood, was brutally assaulted by a farmer living near that place, November 1. It is believed that the assault grew out of resentment on account of the assailant's house being placed under temporary quarantine for diphtheria by Dr. Donelan, who is township health officer.

MAINE

Personal.—Dr. W. S. Noyes, Saco, was elected surgeon-general and member of the executive committee of the Union Veterans' Union, at its meeting in Washington, October 7. ——Drs. Ralph A. Parker and Daniel A. Barrell have been appointed medical inspectors of the public schools of Auburn, and Dr. John F. Hill medical inspector of the public schools of Waterville.

Hurt in Automobile Accident.—Five Augusta physicians, Drs. George R. Campbell, William H. Harris, Wellington Johnson, George A. Coombs, and Albert H. Sturtevant, were injured in an automobile accident September 22, while returning from Belgrade. Dr. Johnson sustained a comminuted fracture of the left arm and a dislocation of the shoulder; Dr. Sturtevant suffered a contusion of the chest and dislocation of both thumbs; Dr. Harris strained his back, necessitating his being taken to the general hospital; Dr. Coombs strained his arm and left leg, and Dr. Campbell sprained his right ankle.

Medical School Opens.—The Medical School of Maine, the Medical Department of Bowdoin College, Brunswick, opened for its nineteenth annual session October 22. Dr. Richard D. Small, demonstrator in histology and instructor in obstetrics, has resigned. The professorship in materia medica and therapeutics, vacated by the death of Prof. Charles O. Hunt, still remains unfilled. The following are the new members of the faculty: Dr. Philip Pickering Thompson, assistant demonstrator in anatomy; Drs. Philip Webb Davis and Alfred William Haskell, clinical assistants in surgery; Drs. Ernest Woodbury Files and Frank Joseph Welch, clinical assistants in medicine, and Dr. William Moran, clinical assistant in diseases of the eye.

MARYLAND

New Head of Visiting Nurses' Department.—Mrs. Reginald Foster, the widow of Dr. Reginald Foster, Boston, has been appointed head of the visiting nurses' department of the Phipps Tuberculosis Dispensary at Johns Hopkins Hospital, Baltimore.

Pure Food Exhibition.—The pure food exhibition in Baltimore closed November 6, after being open two weeks. Great interest was manifested in the exhibition by physicians and the public. The petition presented to the governor, urging the speedy enactment by the state of a pure food law similar to the federal Food and Drugs Act, received many thousand signatures.

Conference of Charities and Corrections.—The fifth annual meeting of the Maryland Conference of Charities and Corrections was held in Baltimore, November 6-8, at the hall of the Medical and Chirurgical Faculty of Maryland. Among the subjects discussed were health and sanitation, education of children, trade schools, care of offenders, dependent children, defectives, care of the insane, alms-houses, their management, etc.

Personal.—Among the Maryland physicians elected to office at the election, November 2, were Dr. Joshua W. Hering, Westminster, comptroller (reelected); Drs. D. Clinton R. Miller Cearfoss District, and Charles A. Wills, Hyattsville, state senators; Dr. Thomas A. Ashby, Baltimore, member of the house of delegates; and Dr. George Wells, Annapolis, clerk of the Circuit Court of Anne Arundel county (reelected).——Dr. Harry F. Shipley, Granite, was badly hurt, November 1, in a runaway accident.——Dr. F. S. Bootay assumed charge of St. Luke's Hospital, Baltimore, November 4, vice Dr. C. C. McCarthy, resigned.

MICHIGAN

Personal.—Dr. and Mrs. Ovidus A. Griffin, Ann Arbor, have returned from Europe.——Dr. Joseph V. Grahek, Calumet, who was recently elected supreme physician of the National Croatian societies, will make his headquarters in Pittsburg. Dr. Herman H. Ruonavaara, Calumet, succeeds Dr. Grahek as supreme physician of the United Croatian-Slevonian societies of the upper peninsula.

Communicable Diseases of September.—During September the number of cases of pneumonia and the deaths from that disease were more than the average for the preceding month. There were reported 79 new cases of, and 172 deaths from, tuberculosis, the mortality being less than the preceding month, but more than the average for September. Typhoid fever was much more prevalent, being reported from 185 localities, or 32 more than for the preceding month. Diphtheria was reported in 60 localities, or 8 more than for the preceding month. The reports from meningitis show that it was more prevalent than in the preceding month, but less prevalent than in 1908. Whooping-cough was less prevalent; scarlet fever was much more prevalent than in August, 1908, or in September, 1908, the disease being present in 56 localities. A serious outbreak is reported from Bay City, where 115 cases have been reported. Measles was much less prevalent than in the preceding month, but more prevalent than in September last year, and smallpox was less prevalent than in August, this year, or September, 1908.

Elections.—At the fourteenth annual meeting of the Detroit Academy of Medicine, October 12, Dr. Lewis E. Maire was elected president; Dr. Homer E. Safford, vice-president, and Dr. Guy L. Connor, secretary-treasurer.——The Detroit Society of Neurology and Psychiatry, at its annual meeting October 7, elected the following officers: President, Dr. Edmund A. Christian, Pontiac; vice-president, Dr. Albert M. Barrett, Ann Arbor; secretary, Dr. Charles W. Hitchcock, Detroit; and councilors, Drs. Carl D. Camp, Ann Arbor, and David Inglis, Detroit.——At the annual meeting of the Ionia County Medical Society, held in Ionia October 16, the following officers were elected: President, Dr. George A. Stanton, Belding; vice-presidents, Drs. Charles C. Dellenbaugh, Portland, Frances A. Hargrave, Palo, William A. Wilkerson, Orleans, and Frederick L. Morse, Lake Odessa; secretary-treasurer, Dr. Charles S. Cope, Ionia; censors, Drs. Charles B. Gauss, Palo, Joseph F. Pinkham, Belding, and Edwin F. Beckwith, Ionia; delegate to the state society, Dr. Cope, and alternate, Dr. Pinkham.——Physicians of Owosso met October 19 and organized the Owosso City Physicians' Association, and elected Dr. Sam S. C. Phippen, president; Dr. Annis S. H. Gooding, vice-president, and Dr. Arthur M. Hume, secretary-treasurer.——Montcalm County Medical Society, at its annual meeting, held in Greenville October 14, elected the following officers: President emeritus, Dr. John Avery, Greenville; president, Dr. Francis R. Blanchard, Lake View; vice-presidents, Drs. Jay O. Nelson, Howard City, Ernest M. H. Highfield, Edmore, William H. Belknap, Greenville, and Walter A. Lee, Sheridan; and secretary-treasurer, Dr. Horace L. Bower, Greenville (reelected).

MISSOURI

Wins Mandamus Suit.—The mandamus suit brought by Dr. William F. Kuhn, St. Joseph, formerly superintendent of State Hospital No. 2, against the board of managers of that institution, was decided in favor of Dr. Kuhn, October 23, and the board of managers will now be required to pay Dr. Kuhn the salary for July and maintenance money for himself and family for that month.

State Board of Nurses Appointed.—Under an act of the last legislature, the governor appointed the following five women to be known as the State Board of Examination and Registration of Nurses: Miss Maud Landis, Levering Hospital, Hannibal, and Mrs. F. S. Smith, superintendent of St. Luke's Hospital, St. Louis, three years; Miss C. B. Forrester, University Hospital, Kansas City, and Miss Ida Gerding, superintendent of the Lutheran Hospital and instructor in the training school for nurses in that city, St. Louis, for two years; and Miss E. B. Tooker, Springfield Hospital, for one year.

NEW JERSEY

Annual Banquet of Hospital Clinic.—The annual banquet of the Elizabeth General Hospital Clinic was held October 19. Dr. Frederick H. Pierson was elected president; Dr. Horace R. Livengood, vice-president; Dr. Russel A. Shirreffs, secretary (reelected), and Dr. John H. P. Conover, treasurer (reelected).

State Board Changes.—Dr. Edmund L. B. Godfrey, Camden, resigned as secretary of the State Board of Medical Examiners of New Jersey November 3, on account of continued ill health, and Dr. Horace G. Norton, Trenton, was elected to fill the unexpired term.

Gift to Hospital.—George E. Pancoast, Mount Holly, has conveyed to the Burlington County Hospital seven of his properties in Mount Holly. For this charitable bequest he gives the following reason: "My love for the aforesaid institution, and hope, wish and desire that said institution shall prosper and be a blessing to wounded humanity."

NEW YORK

Medical Club Changes Name.—At the annual meeting of the Dutchess County Medical Club, October 11, the name of the organization was changed to the Poughkeepsie Academy of Medicine. The following officers were reelected: President, Dr. James E. Sadlier; vice-president, Dr. Nelson Borst, secretary, Dr. John A. Card; and treasurer, Dr. Lewis H. Marks.

Women Incorporate Society.—The Woman's Medical Association was incorporated November 3, with the stated purpose of bringing about closer relations among the alumnæ of the Woman's Medical College, the New York Infirmary and other women physicians holding degrees from medical colleges. Among the incorporators are Drs. Mary B. Jewett, Josephine Hemenway, Eleanor Parry and Alma Vedin, all of New York City.

State Board Election.—At the annual meeting of the State Board of Medical Examiners, held in Albany, October 30, Dr. William Warren Potter, Buffalo, was reelected president, and Dr. William S. Searle, Brooklyn, vice-president. Topics for the coming year were assigned as follows: Anatomy, Dr. William S. Ely, Rochester; physiology, hygiene and sanitation, Dr. William H. Park, New York; chemistry, Dr. Floyd S. Farnsworth, Plattsburg; surgery, Dr. Willis G. MacDonald, Albany; obstetrics and gynecology, Dr. William Warren Potter, Buffalo; pathology, Dr. Lee H. Smith, Buffalo; bacteriology, Dr. Frank W. Adriance, Elmira, and diagnosis, Dr. William S. Searle, Brooklyn.

Society Meeting.—At the fourth annual meeting of the First District Branch of the Medical Society of the State of New York, held in Middletown, October 28, the following officers were elected: President, Dr. Theodore D. Mills, Middletown; vice-president, Dr. W. Stanton Gleason, Newburgh; secretary, Dr. Charles E. Denison, New York City; and treasurer, Dr. James E. Sadler, Poughkeepsie. The next annual meeting will be held in Newburgh.——At the annual meeting of Binghamton Academy of Medicine, held October 26, Dr. John S. Kelley was elected president; Dr. Frederick A. Goodwin, vice-president; Dr. Frank L. Allen, secretary (reelected), and Dr. Harry I. Johnson, treasurer.

New York City

Personal.—Dr. Michael A. Cohn, Brooklyn, was injured in an automobile accident recently, and taken to the German Hospital.——Dr. L. Emmett Holt has been afflicted by the loss of his youngest son, who died at Pleasantville, N. Y., from pneumonia, October 29.

Apartments for Tuberculosis Patients.—Plans were filed November 3, for four model six-story tenements to be used for the accommodation of sufferers from tuberculosis. The tenements are to be erected in the upper east side at an outlay of $650,000, not including site. Roof gardens, open-air balconies and other features designed to aid in the cure and prevention of tuberculosis are planned.

Bequests to Hospitals.—The will of Mitchell Valentine, late of Westchester, N. Y., gives about $500,000 to be divided between the Presbyterian and Hahnemann Hospitals of New York, and the two funds to be known respectively as the Isaac E. Valentine and the Stephen Valentine Memorial funds. The sum of $100,000 is given to the Peabody Home in the Bronx, the income of which is to be used for the general purposes of the home.——By the will of the late John S. Kennedy, banker and philanthropist, who died October 31, $2,250,000 is bequeathed to the Presbyterian Hospital, to which he had already given a million dollars a year ago, and also $400,000 for a nurses' home.

Large Sums for Charity.—The will of the late Jane G. Phelps of Tarrytown leaves $10,000 to the Presbyterian Hospital of New York City, $5,000 to the Tarrytown Hospital, and $5,000 to the Lincoln Home and Hospital, Manhattan.——The will of Caroline Phelps Stokes, who died on April 26, gives the Peabody Home for Aged and Indigent Women in the Bronx $10,000 for a chapel, and the New York Post-Graduate Hospital and the Women's Medical College Infirmary each $5,000 for free beds to be named the Dorothy beds.——At the celebration of the Twenty-fifth anniversary of the Montefiore Home at the Hotel Astor recently, donations amounting to $101,500 were received. Of this amount Jacob H. Schiff gave $50,000 and Mr. and Mrs. Murray Guggenheim gave $25,000. The new home which was recently completed has accommodations for 600 patients.

PENNSYLVANIA

Personal.—Dr. William S. O. Sherman has been named chief surgeon of the Carnegie Steel Company of Pittsburg. He will appoint twenty-seven additional surgeons, one to be stationed at each plant at a fixed monthly salary.——Dr. Samuel H. Gilliland, of Marietta, has been appointed to take the place of the late Dr. Leonard Pearson as state veterinarian. Dr. Gilliland will take charge of the state live stock sanitary board at once.

Philadelphia

Jewish Consumptive Institute.—The Jewish Consumptive Institute completed its organization November 6 by the election of the following officers: President, Max Eskin; vice-presidents, P. Miller and Abraham Weitzenfeld; treasurer, D. B. Tierkel. The following physicians were elected to the medical board: Drs. Solomon Solis-Cohen, Max Staller and Max Barbour.

Personal.—Dr. Harry Lowenburg has been made instructor in pediatrics in Jefferson Medical College.——Dr. Henry Parrish has been chosen laryngologist to the Kensington Tuberculosis Dispensary.——Dr. Henry W. Cattell has been appointed a director of the Philadelphia County Medical Society to fill an unexpired term.——Dr. Holmes Troutman, resident physician in the Philadelphia General Hospital, has been appointed resident physician at the Queen's Hospital, Honolulu, Hawaii.

Hospital Corner-Stone Laid.—The corner-stone of the addition to Mount Sinai Hospital was laid with appropriate ceremonies, October 27. More than two thousand persons were present. The new building will double the present capacity of the hospital. The building is a brick and stone structure with terracotta trimmings, 90x90 feet. It is hoped to have the two first floors completed by January. The first floor of the building will be used as a dispensary and the second will contain the men's and women's wards and will be provided with 65 beds.

Physicians and Allied Scientists Meet.—The Philadelphia Academy of Medicine and Allied Sciences, an organization of negro physicians, dentists and pharmacists, at its fifth annual meeting, held October 18, elected the following officers: President, Dr. Robert W. Bailey, Germantown; vice-president, Dr. Milton N. White; secretary, Dr. Grace A. Dinguid; assistant secretary, Dr. J. T. Howard; corresponding secretary, Dr. Arthur T. Boyer; treasurer, Dr. Paul J. Taylor; historian and organizer, Dr. C. G. Coates; and executive board, Drs. Nathan F. Mossell, John P. Turner, T. Spotuas Burwell, Arthur T. Boyer, and J. Henry Boothe.

Money for Institutions.—Richard B. Westbrook bequeathed $10,000 to the Wagner Free Institute of Science. By the will of his widow, Dr. Henrietta Payne Westbrook, who died October 15, any deficiency in the above bequest is to be made up from her estate, valued at $35,000.——The Federation of Jewish Charities is made the beneficiary of $3,000 in the will of the late Herman Loeb.——The charities to benefit by the annual charity ball, January 3, at the Academy of Music, will be the medical wards of the University of Pennsylvania; the maternity department of Jefferson Medical College Hospital; the Children's Aid Society; and the Polyclinic Hospital.——A provisional bequest of $4,000 to the Norristown Hospital is contained in the will of the late Abraham Wentz.

RHODE ISLAND

New Tuberculosis Hospital.—Mrs. Theodore K. Gibbs has purchased a site at Southwick's Grove, Middletown, on which it is said she will erect a large hospital and home for the treatment of tuberculosis patients from Newport.

Personal.—Dr. Jay Perkins, medical examiner for the city of Providence, has resigned, and the governor has appointed Dr. Clifford H. Griffin to fill the vacancy. Dr. William C. Monroe, health officer of Woonsocket, has returned from Europe.

Fiske Fund Prize Essay.—The trustees of the Fiske Fund propose the following subject for the Fiske Fund Prize Essay for the year 1910: "Classification and Treatment of the Diseases Commonly Known as Rheumatism." For the best essay on this subject, they offer a prize of $200. Dissertations must

be forwarded to Dr. Halsey DeWolf, 212 Benefit street, Providence, on or before May 1, 1910. The trustees of the fund are Drs. Eugene Kingman, Providence, Augustine A. Mann, Central Falls, and Frederick T. Rogers, Providence.

Franco-American Physicians Meet.—At the annual meeting of the Franco-American Medical Society of Rhode Island, held in Providence, the following officers were elected: President, Dr. Joseph D. N. Dubeau, Providence; vice-presidents, Drs. Theodule Morisseau, Warren, and J. Edgar Tanguay, Woonsocket; secretary, Dr. Alfred Poirier, Woonsocket; assistant secretary, Dr. Arthur O. Trottier, Providence; treasurer, Dr. Florian A. Ruest, Pawtucket, and librarians, Drs. J. Gaspard Boucher and Walter C. Rocheleau, both of Woonsocket.

TENNESSEE

Personal.—Dr. A. Bennett Cooke, Nashville, has returned after a summer in Europe.——Dr. Benjamin H. Fraysen has left the University of the South, Sewanee, where he has been connected with the department of medicine and pharmacy.——Dr. S. Rush Miller, Knoxville, has returned from Europe.

East Tennessee Physicians Elect.—At the annual meeting of the East Tennessee Medical Society, held in Greeneville, October 1 and 2, Bristol was selected as the next place of meeting. The following officers were elected: President, Dr. McMinn M. Pearson, Bristol; vice-presidents, Drs. George R. West, Chattanooga, Robert O. Huffaker, Chuckey, and John P. Blankenship, Maryville; and secretary-treasurer, Dr. William M. Copenhaver, Bristol.

Colleges Open.—Memphis Hospital Medical College opened for its thirtieth annual session October 1. Dr. Benjamin F. Turner delivered the opening lecture.——Tennessee Medical College, the Medical Department of Lincoln Memorial University, was formally opened October 1, with addresses by Prof. W. L. Stooksbury, president of the university, Cumberland Gap; Hon. Henry R. Gibson, Knoxville; Dr. R. L. Jones, dean of the faculty, and others.

Will Establish Sanatorium.—At a meeting of the Knoxville Association for the Prevention and Relief of Tuberculosis, held October 13, a prospectus was adopted setting forth that the association has in mind the establishment of a sanatorium in Knox county for the treatment of tuberculosis and for the prevention of the disease. The movement is purely benevolent, without any purpose of personal gain or profit. An appeal is to be made for subscriptions, donations, voluntary contributions, funds for endowment, materials, etc., to secure proper location and construct adequate buildings and provide facilities for the handling of patients and the promotion of the cause.

TEXAS

Sanatorium Opened.—The Texas Baptist Memorial Sanatorium, Dallas, which has cost nearly half a million dollars, was opened to inspection October 14. The formal opening will be held some time this month.

Physicians Meet at Brady.—At the annual meeting of the Fourth District (San Angelo) Medical Society, held at Brady, October 12 and 13, Dr. A. Chauncey DeLong, San Angelo, was elected president, and San Angelo was selected as the place for the next annual meeting.

The Prevalence of Hookworm Disease.—Dr. William M. Brumby, Houston, state health officer, on October 23, sent out a letter to health officers of the state, relative to the prevalence of hookworm disease, and the manner in which it may be cured. Microscopic examination of feces for the ova or hookworm will be made by the state bacteriologist free.

Medical Examiners Sustained.—The Third Court of Civil Appeals, on October 13, sustained the right of the State Board of Medical Examiners to refuse to issue licenses on account of grossly unprofessional or dishonorable conduct of a character likely to deceive and defraud the public. The board is said to have refused a verification license to Stephen Alfred Morse of McLennan county on account of alleged unprofessional conduct. Morse instituted mandamus proceedings, but the appellate court sustained the board.

Personal.—Dr. Joseph Gilbert has been appointed medical attendant for the male students of the University of Texas, Austin.——Dr. J. Mark O'Farrell, Richmond, has been appointed a member of the State Board of Health, vice Dr. Edward B. Parsons, Palestine, resigned.——Dr. Joseph R. Ferrell, Waco, has returned from Europe.——Drs. Arthur C. Scott and R. R. White, Temple, chief surgeons of the Santa Fe System, have been unanimously elected chief surgeons of the Gulf and Interstate Railway.——Dr. Samuel C. Broadstreet has been appointed city health officer of Mount Pleasant.

Health Officers' Meeting.—The annual Conference of State and County Health Officers was held in Austin October 7 and 8. A resolution was adopted calling on the governor to make operative at the earliest possible moment the bill providing for the establishment of a leper colony. The association endorsed individual drinking cups in schools. A committee consisting of Drs. Dabney Berry, San Antonio; James M. Loving, Austin; Edward M. Thomas, Georgetown; John M. Johnson, Giddings, and James W. McCarver, Brownwood, was appointed to confer with the State Board of Health regarding further provisions in the sanitary code.

WISCONSIN

Personal.—Dr. Chester M. Echols, Milwaukee, has been elected professor of gynecology in the Marquette University Medical School, vice Dr. Thomas Fitzgibbons.——Dr. John T. Corr, Kenosha, has returned from Europe.

Veteran Physician Honored.—Jefferson County Medical Society, at a special meeting in Jefferson, October 16, gave a banquet to Dr. William W. Reed, Jefferson, in honor of his sixtieth anniversary as a practicing physician in that place. On behalf of the society, Dr. John V. Stevens presented Dr. Reed with a silver loving-cup.

GENERAL NEWS AND COMMENT

Army Sanatorium.—Representatives of the Army and Navy are engaged in selecting a site for an army and navy sanatorium in Baguio, Northern Luzon, 150 miles north of Manila, at a high altitude and with a temperature ranging from forty to eighty degrees.

New Law for Japanese Physicians.—The United States vice-consul general at Yokohama reports that, according to the revised law, physicians may not advertise in any way whatsoever, their ability, method of treatment or previous career, excepting degrees, title and specialties, and shall provide a record book of service to patients which must be preserved for at least ten years.

Uniform Anti-Spitting Sign.—Health Commissioner Dixon of Pennsylvania has succeeded, through correspondence with state boards of health throughout the country, in securing the adoption of a uniform anti-spitting sign to be posted in railway cars that pass through the various states. The sign reads as follows: "The laws of the different states forbid spitting in public places under penalty."

Hospital Buildings Completed.—The two new buildings at Ancon Hospital, Canal Zone, now practically completed, will contain four surgical wards, the largest ward buildings in the reservation. The buildings are two stories in height and are intercommunicable. These wards will be used for the treatment of negro patients, and will give additional accommodation for 150 to the hospital.

Non-Lepers at Molokai.—Press telegrams report that fifty supposed lepers out of the first hundred examined by physicians at Molokai, have been declared non-lepers, and will probably be freed. The reexamination is being made under the resolution adopted by the last legislature, and it is expected that many hundreds of patients will apply for the privilege of reexamination under the law.

Pure Water for Soldiers.—A board of officers has been appointed, consisting of Lieutenant-Colonel Jefferson R. Kean and Major Frederick F. Russell, of the medical corps, and Capt. Bertram T. Clayton, of the quartermaster's department of the army, to visit the water purification plants of many cities and pass on the advisability of the adoption by the war department of plants for purification of water by the so-called ozone process.

Colored Physicians Meet.—At the tenth annual meeting of the Negro Medical, Dental and Pharmaceutical Association of West Kentucky and Tennessee, held at Humboldt, Tenn., October 15, Dr. W. Justin Waytes, Ripley, Tenn., was elected president; S. H. Broom, Savannah, Tenn., vice-president; Dr. John L. Light, Jackson, Tenn., secretary; Dr. S. W. Polk, Milan, Tenn., corresponding secretary, and Dr. E. D. Barnett, Brownsville, Tenn., treasurer. Brownsville was selected as the next place of meeting.

Election of Cotton Belt Surgeons.—The Cotton Belt Railway Surgeons' Association, at its annual meeting, held in Texarkana, Texas, October 26, elected the following officers: President, Dr. William A. James, Chester, Ill.; vice-presidents: for Missouri, Dr. Garnett S. Cannon, Illmo; for Arkansas, Dr. Amos W. Troupe, Pine Bluff; for Texas, Dr. Irvy L. McGlasson, Waco; for Louisiana, Dr. Oscar Dowling, Shreveport; for Tennessee, Dr. John L. Jelks, Memphis; for Illinois, Dr. William F. Grinstead, Cairo, and secretary-treasurer, Dr. Harry H. Smiley, Texarkana.

The Colored Antituberculosis League.—Surgeon Charles P. Wertenbaker, United States Public Health and Marine-Hospital Service, a southern man and thoroughly conversant with the conditions affecting the colored race, deserves great credit for his earnest work in the dissemination of knowledge regarding tuberculosis among the colored people. He has formulated a plan for the organization of colored antituberculosis leagues in each state, with a branch in every colored church. Up to the present time, such leagues have been organized in Georgia, Louisiana, Mississippi, North Carolina, and Virginia. Under the organization of each state league, a committee is appointed to select a president for every county in the state, whose duty it is to organize a branch league in each colored church in the county. Each church league is to appoint four standing committees, on finance, information, sick and sanitation respectively. The work of the third committee is especially important, as it makes out a list of all sick and ailing, whereupon the physician of the organization will visit the patients and decide the nature of the illness. Each member of the league is given a certificate of membership, of attractive appearance and suitable size for framing and use as house decoration, bearing printed information relative to the cause, prevention and cure of tuberculosis. The dues paid into the league go to form a fund to help those of its members who contract tuberculosis. The church league supplies its members with information regarding tuberculosis and sanitation, aids sick members, establishes dispensaries, and ultimately sanatoriums and tuberculosis farms where the patients, while living out of doors and working on the farm, may be under medical supervision; it also helps to provide tents, shacks or sheds, with sleeping-bags, blankets, bedding, etc., and dispenses proper food which indigent patients might not be able to obtain otherwise. As soon as a church league is formed, a physician is secured to examine all members referred to him and to decide if they have tuberculosis. When practicable, a tuberculosis dispensary is to be established at some convenient point where physicians may have certain days and stated hours where they can see consumptives and decide as to the necessary treatment. For the purposes of the league, tuberculosis patients are divided into three classes, the first including those who are in the early stages of the disease and who are able to work while taking treatment; the second, those patients who need to stop work and remain quiet to get well; and the third, cases in which the disease has progressed so far that it is hopeless to attempt a cure, but in which much can be done to make the patients comfortable and to prevent them from spreading the disease. The work of these leagues is at present in the formative stage, but such a scheme appears to be the best yet suggested to meet the problem of tuberculosis among the colored population of the country.

FOREIGN

Congress for Study of History of Medicine.—Italy held at Venice last month the second annual national congress for study of the history of the medical and natural sciences, with Professor Giordano in the chair. A number of unpublished diaries and data were presented throwing light on the history of medicine during the palmy days of Italy and into the sixteenth century. The list included Mercuriale's diary describing the plague at Venice and Padua in 1576, and others showing the high privileges enjoyed by the profession in Venice, exemption from taxation, advantages of organization, and the concerted and effectual action by the local medical association against certain abuses and quack practices. The decision of the board of officers of the local medical association seems to have been accepted by the courts as decisive in all medicolegal questions.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Oct. 30, 1909.

Alarming Increase of the Unvaccinated in England

In a previous letter the disastrous effects likely to result from the relaxation of the vaccination law, made owing to the pressure of the antivaccinationists, has been foretold. In this country extreme ideas as to the liberty of the subject and the rights of parents to forbid an operation on their children which they consider injurious are widely entertained. The legislation of recent years on vaccination consists entirely of concessions to the antivaccinationists who have carried on a persistent agitation against what they call "the disgusting and dangerous practice of inoculating children with matter obtained from sores." In 1853 an act making vaccination compulsory was passed without opposition. It remained in force until 1867, when the first concession was made to antivaccinators. A parent was rendered liable to a penalty of $5 for neglecting to have a child vaccinated, unless he could produce "a reasonable excuse." It was not sufficient for him to have a general objection to vaccination, but he had to satisfy the magistrate by legal evidence that he had good ground for believing that in the particular case vaccination would be injurious. As a further concession an act was passed in 1898 by which all public vaccinators were ordered to use calf lymph and the use of human lymph was abandoned. Previously calf lymph vaccination was only performed by private vaccinators, who charged an increased fee for it. But the act went farther and a parent who failed to have his child vaccinated was exempted from penalty if he could satisfy the magistrate within four months of the birth of the child that he conscientiously believed that vaccination would be injurious to its health. In 1907, by a new act the parent was no longer compelled to appear before a magistrate; all he had to do was to send a declaration to the vaccination officer that he believed vaccination to be injurious. The effects of all these concessions are only now becoming apparent and the first statistics on the subject have been published in the *Lancet* by Dr. L. B. Cane, a public vaccinator. He shows that in his district of Peterborough the percentage of exemptions from vaccination have steadily risen from 0.45 in 1897 (the year before the recognition by law of the "conscientious objector"), to 1.1 in 1899, and 2.2, 2.7, 2.8, 4.2 and 4.2 in the succeeding years. A slight fall followed and in 1907 the percentage was 3.5, but after the passage of the last act, just mentioned, the percentage rose to the enormous one of 28. Moreover this does not express the whole proportion of those unvaccinated, but only those granted legal exemption. Some children are not vaccinated in consequence of ill-health and others escape the notice of the vaccination officers by removal to another district. Finally the figures for Dr. Cane's district are much below the average for the county of Northampton in general, which amounts to 51.1. Thus more than half the children are unvaccinated. Figures for other counties in England are not yet available, but there can be no doubt that, if not so high as those of Northampton, they must be considerable. The present generation has forgotten the horrors of smallpox from which vaccination has rescued it. So rife was the disease in this country a century ago and so universal the pitting of the face produced by it that it is recorded that a girl was considered pretty if she had escaped the disease and was therefore not pitted. The masses know nothing of the scientific basis of vaccination and readily believe the statement of the antivaccinators that the decline of smallpox is due to improved hygiene and isolation hospitals. Thanks to their persistent agitation a suitable soil for a great epidemic is now prepared.

Enormous Infantile Mortality in Alexandria

Beneficent as British rule has proved in Egypt, it does not appear to have had any effect in diminishing an enormous infantile mortality. According to the report just issued by Mr. E. G. Carpenter, health officer for Alexandria, in the years 1902 to 1907 inclusive, 83,404 children were born, of whom 24,948, or 30 per cent., died in the first year of life. Comparing this mortality of 300 per 1,000 births with that of other countries it is exceeded only by Chili, for which the figure is 326; Russia follows with 268; Austria with 224; England with 150, and Ireland with 103. Comparing Alexandria with some of the larger cities of England the figures are: London 141, Manchester 177, and Preston 244. The majority of the infantile deaths in Alexandria are due to the following causes: 1. Prematurity, lack of development and marasmus; 2, diarrhea; 3, bronchitis and pneumonia. Tuberculosis is low, being only about a third of that of England, but there is thrice the mortality from diarrhea, twice as much from marasmus, thrice as much from rickets, and twice as much from bronchitis. The causes of the high mortality from these diseases are ignorance and neglect of the hygiene of pregnancy, the dirty habits of the natives and their fatalism which prevents them from seeking medical treatment in time.

Professor Osler on the Future of Tropical Medicine

The American ambassador, the Hon. Whitelaw Reid, presided at the opening of the London School of Tropical Medicine, at which was present a distinguished audience. An address was delivered by Professor Osler. The American ambassador in introducing him said he was "an excellent example of what America could do with a Canadian when he was caught young. McGill University brought him to some prominence; he reached the climax of his fame at Johns Hopkins, and then retired into his dignified repose at Oxford." In his address Professor Osler insisted on the importance of sanitation in dealing with subject nations. After referring to the

great recent advances in pathology and prevention of tropical diseases he said that two things were necessary to those who took up the heavy burden of securing health in the tropics. First they must have organized centers from which the work might proceed; a model of this sort was the sleeping sickness bureau under the auspices of the Royal Society. Similarly organized central bodies had already dealt with plague and malaria. These organizations should be placed on a permanent basis and unified in some way under a central tropical institute, the different departments of which would be in touch with its workers all over the world. By far the most useful work in British medicine during the past twenty years had been the result of carefully planned expeditions sent out partly by the liberality of the citizens of Liverpool and partly as commissions by the government and the Royal Society. The school in which they were assembled was established ten years and had trained nearly 1,000 men for work in the colonies and dependencies. It had fostered original research in tropical diseases and was an important center for the diffusion of scientific knowledge. He was astonished that such good work had been done on a total capital of less than $200,000. Tropical sanitation would loom larger and larger in the future. England had had the start, but the United States, Germany, France, Holland and Japan were in the field and it behooved the country to equip adequately such a school as that, giving it the necessary professorships, a large hospital, museums and libraries. He also recommended the establishment of subsidiary schools in the tropics in connection with the school. This scheme would not require an endowment of more than $10,000,000.

Milton's Blindness

At the recent Ophthalmological Congress held at Oxford, Professor Dufour of Lausanne read a most interesting paper on Milton's blindness based on an account of his symptoms communicated by the poet to a friend, an oculist in Paris, from whom he expected advice. In 1644 his left visual field was encroached on by shadow which gradually extended until the eye became totally blind. Haloes were seen around flames and motionless objects appeared to float about. The right eye then became involved in a similar way but the pall of darkness was never complete. The upper half of the visual field was first lost. In 1654 there were sensations of faint light which Milton compared with early dawn. No shock or injury has been mentioned in connection with the blindness, but Milton admits that from the age of 12 he worked up till midnight. Professor Dufour thinks that the symptoms point conclusively to detachment of the retina.

Deaths from the Dry Shampoo

The case of the young woman who died while her hair was being shampooed with carbon tetrachlorid has been reported in previous letters (THE JOURNAL, July 31, 1909, p. 392, and Aug. 28, 1909, p. 726). The evidence went to show that the shampoo was harmless to healthy persons, but the doubts previously expressed regarding this conclusion have been confirmed by an article subsequently published by Dr. Waller, director of the physiologic laboratory of the University of London and Dr. Veley, a distinguished chemist. They show that carbon tetrachlorid is a very deadly substance and more toxic than chloroform. As a sequel to this case questions were asked in parliament and the government instituted a prosecution against the manager of the hairdressing department and the assistant who gave the shampoo. For the defense it was stated that on learning the dangerous nature of the shampoo the proprietors of the hairdressing establishment had ordered that it was never again to be used. Counsel for the prosecution then withdrew the charge of manslaughter, saying that the object of the prosecution was to bring before the public the dangerous nature of the process and that if any deaths occurred in the future a serious charge would be instituted. Probably some legislation prohibiting its use will follow. The result of this case is that the carbon tetrachlorid shampoo has been entirely abandoned. Before the introduction of the tetrachlorid, petrol (a product practically identical with gasoline) was used for the dry shampoo, but owing to its inflammable nature some deaths from burning occurred and led to its use being prohibited. Carbon tetrachlorid was then adopted as it is non-inflammable, but its poisonous properties were not recognized. Now the petrol shampoo has been used again with a dreadful result. At a French hairdresser's in the West End a woman, aged 23 years, was being shampooed with petrol. The daughter of the hairdresser was in the room engaged in drying some false hair which had been cleaned with petrol. Ignition took place from the burner of the dryer and both women were so severely burned that they died. In addition another woman who was in the room was also burned and lies in the hospital in a critical condition.

The Tragedy of the Workhouse Bath

An extraordinary triple tragedy at the Hemel Hempstead Workhouse has been the subject of a coroner's inquest. Three men, aged, respectively, 56, 54 and 68 years, were given on October 4 a bath at a temperature of 88 or 89 F. by a porter acting under the direction of a nurse. One died twenty minutes later, another died on the same afternoon and the third died four days later. In the last case the connection between the bath and the patient's death was not clearly established. The medical officer of the workhouse stated at the inquest that in the second case he was called to the man and found him in a state of collapse, which would be accounted for by the fact that the bath was given at too low a temperature; the temperature ought not to have been under 98 F. The man was in a serious condition before the bath and the nurse ordered the bath without having obtained the physician's sanction. She pleaded that the doctor had ordered a bath two days previously when the patient was in the same condition. The jury found that the deaths in the first two cases were accelerated by the baths. They considered the nurse was culpably negligent in allowing the administration of a bath to a patient in a serious condition without the consent of the physician and that this negligence was exaggerated by the fact that she took no steps to supervise the bath or to see that the temperature was correct. She was taken into custody on the charge of manslaughter.

Unqualified Dentists

In Great Britain the unqualified dentist still flourishes. Forbidden to use the designation "dentist," he resorts to various subterfuges, such as "tooth specialist," "dental institute," etc. One great advantage he possesses over the qualified denist is that he freely advertises, which the qualified dentist, like the physician, is forbidden to do. As he has no qualification to lose, he is not amenable to the discipline of the General Medical Council. Many of these "irregulars" are unskilled charlatans, who victimize those who are unfortunate enough to fall into their hands. A shocking case of malpractice has recently been the subject of legal action. A firm of unqualified dentists trading under the specious name of "The London Hygienic Institute," employed a canvasser to get patients. The agent induced a foreman baker to enter into an agreement that for the payment of $9 his teeth should be completely and properly dealt with. The man went to the defendants' premises where he saw an assistant, who injected some local anesthetic which had no effect. A few teeth were extracted, causing great pain. Then the patient, in a fainting condition, said he could stand no more, but the operator said he had better have the job finished, and proceeded to extract in all twenty-two teeth. The patient bled so much that when he arrived home he passed from one fainting fit into another, and a physician had to be called. The patient's mouth was much lacerated, and he was so weak from loss of blood that without proper attention he might have died. Later a dentist had to be called. He found that the work of extraction had been most unskillfully done, and that there remained fourteen stumps in the patient's mouth which had to be extracted. For the defense, the operator stated that he had never been to a dental school, but had learned the mechanical part of dentistry in the workshop which he entered when he left school sixteen years ago. He alleged that he had had great experience in tooth extraction; he had drawn about 10,000 teeth a year for the last nine years. He denied that the patient suffered much pain, and alleged that after extracting six teeth he recommended the patient to have no more teeth extracted that day, but to come again, and that he proceeded with the extractions only because the patient insisted on it. The judge in summing up said that the agreement of the institute to extract teeth did not imply any contract to provide a legally qualified operator, but one who would use due skill and care in the operation. The jury returned a verdict against the institute and awarded the plaintiff $250 damages.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Oct. 20, 1909.

To Prevent Infection from Medicine Containers

The suspicion has been repeatedly expressed in public that infectious diseases may be communicated by medicine containers, which are returned to the apothecaries and used a second time. These apprehensions have been sustained on the part of the pharmacists, which suggests the idea that the

material interests of the pharmacists are involved. The Prussian minister of education has felt himself compelled to request a report from the medical authorities whether such communication of disease has been observed. The report was negative. Nevertheless the minister has notified the district physicians to endeavor to secure, in cases of infectious diseases, the disinfection of medicine containers before refilling, and the burning of covers of wood or celluloid, cork stoppers, powder boxes and other pasteboard articles.

Punishment of Unethical Business Combination by Court of Honor

A large shoe firm of this city engaged a young orthopedist, a former assistant of Professor Hoffa, to give advice to people with diseases of the feet, with the understanding that the physician should be present daily for some hours in the store for the immediate examination of customers, to whom he should give appropriate prescriptions. Naturally the firm made known this engagement with flaring headlines. The Berlin shoemakers' association, which considered its business interests injured in this way, denounced the physician to the Court of Honor and the court reprimanded the doctor and fined him $37.50 (150 marks) on account of his unprofessional contract and his permission of the advertisement of his engagement with the firm.

Relations Between the Size of the Head and the Intelligence of School Children

In the annual report of school physicians of Worms, a nerve specialist, Dr. Bayerthal, takes up the question of the relation between the size of the head and the intelligence of school children. He believes that he has established the fact that excellent intellectual ability accompanies large heads relatively often, less often the small head, and is never found with the very smallest. By very large heads he understands a head of normal shape that measures less than 48 cm. (19.2 in.) in a 7 year-old boy and 47 cm. (18.8 in.) in a girl of the same age, 50.5 cm. (20.2 in.) in a boy of 14, and 49.5 cm. (19.8 in.) in a girl. Among 1,006 children beginning school only 3 boys with circumference of 49.5 cm. and 2 girls with 48 cm. could be regarded of good capacity among a total of 77 children who could be rated in this class. On the other hand an unusually large head is naturally no sign of great intelligence as it is well known that the size of the head is not infrequently increased by rachitis. Bayerthal says that conclusions drawn from the size of the skull are permissible only to this extent, that we may say that with large heads all grades of intellectual capacity may occur, with heads of middle size an ability that is above the average may be found, but a marked development of the intelligence is excluded, as a rule, and that this does not occur with small heads. The reliability of the investigations of the doctor remains to be seen. The experience of other nerve specialists has shown that marked variations and errors may readily occur in tests of intelligence.

The Political Boycott of Alcoholic Liquors

The last convention of the "social-democratic" party at Leipsic on motion of the executive committee adopted a resolution recommending to the members of the party a boycott on alcoholic liquors. While the principal influence leading to this resolution was rather partisan politics and especially the fight against the agricultural distillers, yet a hygienic factor contributed to the adoption of the resolution and the result of such a boycott, if it is actually generally carried out, would surely redound to the benefit of the public. In the circular that has been distributed for this purpose among the German workmen the obvious fact is stated that alcoholic liquors are the most dangerous poison for the people: "Whisky is not a food, not a luxury, not nutritious material. Whisky gives no comfort but only deception and aggravation of misery. Brandy destroys the body and soul of numerous members of our class, destroys the happiness of families and the joy of life, therefore away with spirits!" That the holders of the liquor license are not specially pleased with the resolution of the party is easy to understand; for financial interests overbalance those of party discipline. It remains to be seen what the effect of this action on the consumption of liquor will be in the course of the next year.

Injuriousness of So-called Spotted Eggs

As is well known, fresh eggs are recognized by entire translucency on candling. Spotted eggs show larger or smaller variously colored spots—generally dark or black. These spots are produced in the eggs generally by the development of mold, less frequently by yeast. (Professor Podwyssotzky has claimed that they could be produced also by the development of *Coccidum avium* but this has been disputed.) As these eggs are purchased by dealers in large numbers and sold to bakers and confectioners at a low price, the scientific deputation for medicine, at the request of the chief of police of this city, has investigated the question as to whether eggs of this kind are injurious to health. The report presented by Professor Gaffky and privy councillor Abel, in the name of the scientific deputation, states that spotted eggs without exception must be regarded as spoiled, but there are no reliable observations regarding injury to health following their use. The fact, however, cannot be excluded that under special circumstances, particularly when a lesion of the digestive apparatus is already present, the use of spotted eggs may be injurious to health. The parts that are evidently penetrated by the fungus growth are to be regarded as unusable, the part that appears unchanged or slightly changed to the naked eye cannot be said to be unusable but should always be regarded as inferior and should be excluded from free sale. In case their use for food or the preparation of food is permitted, provision must be made that the buyer shall not be left in doubt as to the character of the eggs and of the food prepared with them. That a question of this sort is of importance for the population of Berlin is shown by the circumstance that in greater Berlin about 35,000,000 dozens of eggs are imported annually. About 95 per cent. of these come from foreign countries, principally from Russia and Galicia, next from Hungary and the Balkan states. Eggs coming from southern Russia and Galicia are at least three to four weeks old and those from the most distant Russian districts must be two or three weeks on the way. Under such conditions it is easy to see that the number of spoiled eggs brought into Berlin must be large.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Oct. 21, 1909.

Relations of Alcoholism and Criminality

The Academy of Medicine resumed its weekly sessions October 5. Dr. Ballon, physician in chief of the Sainte Anne Asylum, read an interesting paper on "Alcoholism as an Etiologic Factor in Criminality." As expert physician to the courts he has had to examine, in the course of the last twenty years, 151 individuals accused of homicide or attempted homicide. Among them there were seven who simulated mental aberration and nine in whose defense mental disturbance was wrongfully pleaded. Out of the 135 accused remaining, there were 120 males and only 15 females. In this number there were 49 cases of alcoholic intoxication (chronic, acute, and subacute alcoholism, pathologic drunkenness, simple drunkenness). The liquor drinkers thus formed more than a third of the total number of those accused of homicide. The influence of alcohol in the production of homicide appears still more considerable if the antecedents of the accused not personally intoxicated by alcohol are examined. A large number of epileptics and feeble-minded are children of alcoholic parents. Dr. Ballon lays particular stress on the fact that acts of violence may be committed not only by chronic alcoholics with or without acute or subacute crises but also by casually intoxicated individuals.

Cold Storage and Refrigeration Congress

The French Association for Refrigeration (*Association française du froid*) held its first congress at Lyons, October 1-3. Various questions were discussed bearing on the extension in France of systems of cold storage and refrigerator cars, which have had such great development in the United States and in England, especially the question of refrigerating food for the army. An army physician, Dr. Vitry, said that attempts at cold storage of fresh meat had already been satisfactorily made in the fortified places on the eastern border. The employment of means for the refrigeration of meat during transportation to the troops in the field has also given excellent results. These attempts deserve to be made on a wider scale in order to lessen the consumption of inferior preserved meats in the army. Dr. Vitry commends the use of frozen meats during war, as it will obviate the necessity of having herds of cattle follow the army. He also recommends brief cold storage for fresh meat for army rations during peace.

French Students in American and English Universities.

Under the title "Should French Students Attend the Universities of the United States or Those of Great Britain?" the *Revue internationale de l'enseignement* published some time ago a series of letters from Oxford, Manchester and Edinburgh

professors in answer to an article "French Students in the United States," that M. E. Vigier had previously published in the same periodical. In this article M. Vigier advises French students who desire to complete their studies abroad to go to the American rather than the English universities. The chief characteristic and advantage of instruction in the United States, according to M. Vigier, is the closeness of the relations between the professors and the students. In America, the professors are much more numerous in proportion to the number of students than in the University of Paris and they devote more hours to teaching, which permits them to follow the progress of each student very closely. M. Vigier adds that "a foreigner is received more cordially in the United States than in England, not only in the universities, but everywhere."

This article naturally aroused protests from the English university world. Mr. Hartog, secretary of the University of London, thinks that there are certain advantages in learning pronunciation and style from English rather than from American students; but he says, "There is no doubt that they are intellectual centers of the first rank." The opinion of H. J. Darnton-Fraser, convener of the International Academic Committee of the University of Edinburgh is still more favorable to the American universities. "The advice given to French students to study in some American university has its good side. There are subjects (surgery and the practical sciences in particular) which can be studied nowhere else with so much profit as in certain institutions of the United States. From the point of view of general education, and enlargement of ideas, a sojourn in America presents incontestable advantages to a young European."

Regulations of the Opium Trade in Madagascar

On the suggestion of Dr. Augagneur, the governor-general of Madagascar, the colonial minister, has recently issued a decree for a strict regulation of the importation, the sale, and holding in stock of opium in this colony. A decree of Aug. 31, 1908, prohibited opium dens, but this prohibition would have remained altogether ineffective if the administration had not been able to exercise a very close control over the drug itself from the time of its introduction.

The Second Congress of the White Cross

The second international congress for the repression of adulteration in food, organized by the Geneva White Cross Society, of which I mentioned the general purpose in a previous letter (THE JOURNAL, Oct. 9, 1909, liii, 1200), opened October 18 in the buildings of the Paris medical school, under the presidency of M. Ruau, the Minister of Agriculture. About 2,000 members of the congress were present, among whom were fifty-two delegates from the twenty-three countries officially represented.

M. Vuille, president of the society, made the opening speech, saying that it seemed probable that an international understanding might be reached for the protection of foodstuffs, such as had been secured in the case of the Red Cross. Professor Bordas, president of the congress, then explained the program. The congress will take for the point of departure of its labors the academic definition of pure food adopted last year at the Geneva congress. In order to define what is commercially pure food, the executive committee of the congress has asked the various French commercial and manufacturing societies to study carefully various processes that their experience has led them to consider indispensable to the preparation of commercially pure food. All permissible processes once fixed and enumerated, food which has been submitted to other processes will be considered as adulterated.

The congress will then collect data in regard to the required legislation and administration on commerce and production with which the third and fourth congresses will have to deal. These desiderata will be previously examined by the section of hygiene under the presidency of Professor Landouzy, dean of the Paris medical school.

The Minister of Agriculture believes that some years hence all civilized countries will have established identical laws for the suppression of adulteration and the preservation of public hygiene. These international regulations for the repression of adulteration are necessary, in fact, for dealing adequately with cosmopolitan adulterators of food. At present there are in every country unscrupulous manufacturers who prepare adulterated foods exclusively for foreign consumption, knowing that in the absence of international agreement such products can pass the frontiers with impunity. The courts are often helpless and sometimes acquit solely because the undoubted infraction of the law has been committed in a foreign country, and even if the case goes against the defendant, the judgment is without effect because the offender cannot be apprehended on foreign soil. Under the new laws, drawn up under the influence of the congress, no offender will be able to escape; and it is already possible to foresee, as M. Ruau does, the time when an international agreement of the White Cross will protect honest commerce in all countries, just as the Red Cross guarantees that all the wounded on the fields of battle shall be safeguarded by the belligerents.

Criminality and Alcoholism

The *Journal officiel* is now publishing the report of the Minister of Justice in regard to crime in 1907. This report shows a considerable increase in crimes against persons. The total number of cases before the courts in 1907 was 2,357, or 214 more than in 1906. The 2,357 cases in the year 1907 may be divided into 1,395 (59 per cent.) of crimes against persons and 962 (41 per cent.) of crimes against property. The 2,143 criminal cases of 1906 may be divided into 1,187 (55 per cent.) of crimes against persons and 956 (45 per cent.) of crimes against property. Two classes of cases, especially, show an increase in 1907; that of murders, in which the increase is 22.5 per cent. and that of unintentional manslaughter, the total has increased from 162 in 1906 to 190 in 1907, an increase of 17.2 per cent. This increase must be attributed especially to alcoholism. The greatest part of the official report is devoted to the relations between alcoholism and criminality. The statistical results on which this document is based are gathered by the employment of the new system of individual records which I mentioned in one of my letters (THE JOURNAL, Jan. 23, 1909, lii, 310) namely, the following: Whenever a crime or a breach of the peace is reported to them, the magistrates have to record on a special report blank (1) if the offense was committed under the influence of liquor and (2) if the accused is a confirmed alcoholic or an occasional drunkard. It appears from the statistics thus gathered that the proportion of crimes against property committed under the direct influence of alcohol is rather small, barely 5.3 per cent. This is not true of crimes against persons, the proportion of which averages 14 per cent. For certain crimes of this category, the percentage is much larger. Thus, the proportion of parricides committed under the influence of liquor is 29 per cent., manslaughter 24.5 per cent., murders 21.9 per cent., etc. If the proportion of alcoholics and drunkards among those accused is calculated, it is found that out of every 100 accused of parricide, there are 31 alcoholics; among those accused of rape or offenses against decency, the proportion is 33.3 per cent., etc.

In studying criminality according to professional groups, one finds that the occupations furnishing the greater number of drunkards show the largest proportion of criminals. Fishermen furnish the largest proportion of alcoholic and drunkard delinquents; then come miners; then the class of day laborers in cities; and then workingmen in various industries. The regions in which crimes of violence most frequently result from alcohol are those of the northeast, north and northwest; those in which alcohol has the least influence are in the center, south and southeast.

Change of Date of International Congress of School Hygiene

The Third International Congress of School Hygiene, the opening of which was set for March 29, 1910 (THE JOURNAL, Aug. 7, 1909, liii, 468) will be held in Paris, Aug. 2 to 7, 1910. In view of the impossibility of finding a building large enough to contain the exposition of hygiene to take place at the same time as the congress, the committee of organization was under the necessity of either omitting the exposition entirely or of changing the date of the congress. Believing that the exposition would be of great interest and would give to all those interested in educational hygiene an exceptional opportunity of informing themselves in regard to the various types of educational architecture and furniture, the committee preferred to postpone the congress to the time when vacation begins in France.

Protection of Hands in Surgery.—Some surgeons have advocated protective coatings to the hands, but these coatings encourage and intercept perspiration, and in spite of the thickness they invariably crack or wear off during the operation, unloading an army of virulent organisms fresh from the deeper recesses of the skin, directly into the wound.—C. E. Tennant, in *Denver Medical Times and Utah Medical Journal.*

Pharmacology

RESINOIDS AND CONCENTRATIONS

Report of the Council on Pharmacy and Chemistry

In view of the fact that there is much misunderstanding as to the character of the so-called resinoids and concentrations, and also as to the meaning of the suffix "in," as used in pharmacology, it has been recommended that the following report be published. The recommendation was adopted.

W. A. PUCKNER, Secretary.

MISUSE OF THE ENDING "IN" AS APPLIED TO SO-CALLED RESINOIDS AND CONCENTRATIONS

The endings "in" and "ine" are commonly used in connection with the names of definite chemical substances. In naming the vegetable principles (substances), the ending "ine" has commonly been used to indicate basic (alkaloidal) substances and the ending "in" to identify non-basic (glucosidal, neutral, bitter) substances, and this system of nomenclature is followed in the U. S. Pharmacopeia. While both endings have thus been used to indicate definite, chemical substances much confusion has been caused by using the ending "in" in connection with a class of pharmaceutical preparations (galenicals) known as "resinoids" or "concentrations." This class of preparations is obtained by preparing an alcoholic tincture of a drug, reducing the tincture to a soft extract and collecting the precipitate which is formed when the extract is poured into water. "Podophyllin" may be taken as the type of this class of preparations. "Podophyllin" is not a definite chemical substance, as the ending "in" would imply, but a somewhat variable mixture of the resinous constituents of the drug podophyllum (Mandrake). The name "resin of podophyllum" applied in the U. S. Pharmacopeia to an almost identical product, is more rational. While the term "podophyllin," therefore, is unscientific and incorrect, it has been established through usage by which the term "in" has come to be applied to non-alkaloidal mixtures known to contain the active constituents of the drug, and in a measure has ceased to be misleading.

There is no justification, however, for a considerable number of titles included with "resinoids" or "concentrations" by some manufacturing pharmacists. While such drugs as juglans (butternut bark), aletris, baptisia, etc., do not contain any appreciable amount of resinous material and do not, therefore, owe to their resin, to any extent, any medicinal activity they may possess, yet the title, "juglandin," "aletrin," "baptisin," etc., are given by the manufacturers to the "concentrations" or "resinoids" of these drugs. From the general descriptions of the "concentrations" or "resinoids" which appear in the catalogs of the manufacturers referred to it is evident that they realize the inconsistency of their position in the matter, for the attempt is made to assign a new meaning to the terms "resinoid" or "concentration." Thus the following description of these products is found in the price list of a well-known manufacturing firm and agrees in general with the descriptions found in the price lists of other manufacturers of this class of preparations: "While some of these (resinoids and concentrations) represent a pure resin and others an impure alkaloid, by far the greater number are a combination of the various active proximate principles contained in the drug which they represent."

When it is considered that the chemical nature of the active principle or principles of the drugs, from which these preparations are made, if they possess any, has not been determined, the reliance which is to be placed on the claims of the manufacturers is obvious. While it is not definitely so stated, it is to be inferred from the descriptions that these products are, in the main, extractive preparations of the drugs. It should be noted, however, that the drug strength (the amount of drug represented by a given amount of the preparation) is not stated; such preparations are thus secret in their composition and should be classed with other preparations of unknown composition, that is, as nostrums.

OXYDONOR

A Fake Cure and What the Courts Think of It

Of therapeutic fakes there are, in the main, two kinds—medicinal and anti-medicinal. The individuals who get "bitten" on the former frequently turn to the latter, for credulity must have an outlet. One of the most impudent fakes of the anti-medicinal type is the "Oxydonor," which was foisted on a long-suffering but easily humbugged public by one "Dr." Hercules Sanche. This modern Hercules tackles the Augean stables of disease by means of his newly-discovered "science" of "Diaduction" which is "practiced with Pocket Diaductive Instruments and Devices"—to-wit: the Oxydonor, price $25.

HOW IT WORKS

The "instrument" consists of a cylindrical portion and a disc portion, the two being connected by a flexible wire. Its *modus operandi* is as follows: The cylinder is placed in cold water while the disc is attached to the patient's ankle. Immediately the cylinder begins to "draw the positive fluid from you, thus creating a vacancy in the system. . . ." It would seem that there are then two vacancies, for we must presuppose the presence of one vacancy in any individual who will part with $25 for such a silly piece of charlatanry. When this induced vacancy—as distinguished from the natural—has been secured, it "leaves you 'negative'" (this has no reference to the financial condition). Being thus "negative," the oxygen of the air "has an affinity for the negative state" and immediately you begin to "absorb the oxygen in the skin and tissues." Then, of course, you get well.

So much for the fake itself.[1] It seems incredible that rational human beings would exchange good money for such a self-evident piece of quackery, but its wily "inventor," remembering Barnum's aphorism, knows better. The United States courts have decided that the "instrument" is not of sufficient value to entitle "Dr." Sanche standing in a court of equity.[2] But the crop of "suckers" is perennial and the sale of this nickel-plated fake goes merrily on.

Very recently an attempt was made in New York to invoke the medical practice act of that state against this transparent humbug. The case fell to the ground because (1) Sanche himself does not apply his cure-all to the patient, and (2) his methods "smack more of the retail vendor or of business methods than of the medical practitoner", and (3) because, in the opinion of the court, the framers of the medical practice law did not "intend to inhibit every one but recognized physicians from publicly recommending manufactures or products as beneficial physically or as curatives or correctives of human disease, pain, injury, deformity or physical condition."

WHAT THE JUDGE THOUGHT OF IT

Whatever satisfaction the Sanche Company may get out of the final decision, it will find small cause for rejoicing in reading the judge's summing up. Said the judge in referring to this fake:

"There has been a studied attempt to stimulate sales by fulsome praise, vague explanations of the force and virtue of 'diaduction,' and exuberant representations of the benefits derivable by using the invention . . . all to attract attention of the curious and credulous."

After quoting some of the claims made by the exploiters of this humbug, the judge goes on to say: "From the record evidence we have tried to get some intelligent idea of 'diaduction.' We have failed utterly. Mr. Justice Shiras, now of the U. S. Supreme Court, with the letters patent before him did not succeed any better for . . . he said: 'I am entirely certain that I do not understand the working of this so-called force, if any such exists, and I greatly doubt whether Dr. Sanche has any clear conception of the force or principle which he seeks to describe under the name of "diaduction."'"

All of which seems to mean, when summed up in non-legal phraseology, that while the learned judges have no doubt that the oxydonor is a fake, and that Dr. Sanche is a faker, they are unable so to stretch the law as to convict the Sanche Company of the illegal practice of medicine.

1. A full description of this article was given by Dr. N. C. Morse, Eldora, Ia., in THE JOURNAL, Dec. 1, 1900.
2. See also THE JOURNAL, Jan. 11, 1902.

Hibbard Pleads Guilty

The Boston Medical Institute and the Bellevue Medical Institute were two names used on separate entrances to a single quack concern in Chicago. The institute purported to treat the "private diseases of men," but a federal court decided that the business was a scheme for obtaining money through the mails by means of fraudulent pretenses. E. R. Hibbard—who seemed to be the owner—was sentenced to two years' imprisonment and to pay a fine of $1,500 and costs. He, of course, appealed, and his case was remanded for a new trial. Recent issues of Chicago papers state that, rather than undergo the new trial, Hibbard has pleaded guilty. The government has decided that payment of the fine of $1,500 and costs would be sufficient punishment. Details of this concern appeared in THE JOURNAL, Oct. 17, 1908, and the matter has been reprinted in pamphlet form.[1]

Miscellany

Embryonic Development.—Maximilian Herzog discovered an impregnated ovum in the uterus of a young Filipino woman who met death as the result of an accident. He made a very thorough and painstaking examination of the specimen, which was almost identical in size and type with the Peter's ovum. These findings, as published in the *American Journal of Anatomy*, July, 1909, may be summarized as follows: A human ovum at the earliest stage of normal development hitherto known, a stage which, perhaps, represents one to two weeks after fertilization, was found interstitially embedded in the decidua. It was incompletely separated from the cavity of the uterus, because it was very superficially embedded, and its outer pole was protected by a thin, incomplete decidua capsularis or a coagulum only. The ovum, after having been fertilized, had evidently been transported to or near to the place where it was found embedded. Herzog advances the theory that by the aid of an ectodermal trophoblast shell, which probably secretes an enzyme destructive to the epithelial cells and connective tissues of the uterine mucosa, which is then in a premenstrual condition of congestion and glandular hypertrophy, the ovum produces necrobiosis or coagulation necrosis in the structures of the mucosa. At the same time the trophoblast, exhibiting great proliferative energy, penetrates through the necrotic tissue into the connective tissue of the mucosa. Here the phenomena of edema and of violent hemorrhagic inflammation are now established. Veins and capillaries become enormously dilated, the blood current becomes sluggish, edematous infiltration becomes pronounced. The ovum automatically orients itself, so that the embryo comes to be situated toward the muscularis. The proliferating trophoblast, with its syncytium provided with cilia or rods, at this time begins to break into and open up dilated maternal capillaries. Maternal blood now makes its way into the trophoblast; whether it here finds preformed cavities or whether it forms these cavities in a loose protoplasm in consequence of hydrostatic pressure, is not known. While the trophoblast opens up the enlarged maternal blood lacunae, the hypertrophy of the mucosa, as a whole, goes on. The gland spaces become large and cystic, their ducts lead to the surface in a tortuous manner. A separation into a spongiosa and compacta becomes early established, and in the latter some cells early assume a marked decidual character. The ovum is now interstitially embedded in the mucosa and surrounded by a border zone of an admixture of still attached or detached trophoblast elements, degenerating fixed maternal cells, both connective tissue decidual cells and glandular epithelia. In this zone are also enormously enlarged maternal blood vessels, cystic, blood-filled gland spaces, and free blood. The ovum almost floats, as it were, in a lake of blood partly contained in the trophoblast cavities, partly in the cystic maternal gland spaces, partly freely infiltrating more or less all of the tissue in the direct neighborhood of the growing germ.

1. A copy of this pamphlet, "The Boston Medical Institute," will be sent, postpaid, for four cents.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: Los Angeles, December 7. Sec., Dr. Charles L. Tisdale, Butler Bldg., San Francisco.
DELAWARE: Regular, Dover, December 14; Homeopathic, Wilmington, December 14. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.
IOWA: State House, Des Moines, Dec. 7-9. Sec., Dr. L. A. Thomas.
KENTUCKY: The Armory, Louisville, December 14. Sec., Dr. J. N. McCormack, Bowling Green.
MARYLAND: 1211 Cathedral St., Baltimore, December 14-17. Sec., Dr. J. M. Scott, Hagerstown.
PENNSYLVANIA: Regular and Homeopathic, Philadelphia, December 14-17; Eclectic, Harrisburg, December 14-17. Secretary of the Medical Council, Nathan C. Schaeffer, Harrisburg.
VIRGINIA: Lynchburg, Dec. 14.17. Sec., Dr. R. S. Martin, Stuart.

Cooper Medical College Still Existing

Word from Dr. Henry Gibbons, Jr., of San Francisco, states that although Cooper Medical College will eventually turn over its property to the Leland Stanford Junior University, there are still three classes to be graduated before the final transfer will be made. Therefore, Cooper Medical College will continue to appear in our lists of medical colleges until after the class of 1912 shall have been graduated.

A College That Should Have Been Included

In the list of colleges "recognized as in good standing" by the American Institute of Homeopathy, in THE JOURNAL, Aug. 14, 1909, page 554, the Atlantic Medical College of Baltimore was omitted in accordance with corrected copy received from the office of the secretary, Dr. J. Richey Horner, of Cleveland. A letter recently received from Dr. Horner, however, states that he did not authorize the omission and that the college named should have been included in the list.

A Denver Medical School Closes Voluntarily

At a recent meeting of the board of directors and of the faculty of the Denver College of Physicians and Surgeons, it was decided by unanimous vote to close the college permanently. The reasons given for the action were that standards of admission to medicine were necessarily becoming higher, that to train medical men properly required a large number of skilled instructors, that to equip the laboratories properly was a matter of enormous expense, and that there was no real necessity of maintaining the college.

This is another instance in which the members of a medical college faculty, at both personal and financial sacrifice, have decided to close their school rather than have it continue as a second or third rate institution.

It has also been reported that two colleges, the Sioux City College of Medicine, Sioux City, Iowa, and the Physio-Medical College of Indiana, Indianapolis, have been suspended. This leaves only one existing physiomedical college and reduces the total number of medical colleges in the United States to 141.

Mississippi May Report

Dr. S. H. McLean, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, May 11-13, 1909. The number of subjects examined was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 226, of whom 109 passed, including 52 non-graduates, and 116 failed, including 66 non-graduates. The following colleges were represented:

College	PASSED	Year Grad.	Total No. Examined.
Univ. of Alabama	(1, 1893) (1, 1894) (1, 1907) (2, 1909)		5
Rush Medical College	(1, 1870) (1, 1908)		2
Chicago Homeopathic Medical College		(1897)	1
College of Physicians and Surgeons, Chicago		(1906)	1
Kentucky School of Medicine		(1908)	1

Louisville Medical College	(1906)	1
Hospital College of Medicine, Louisville	(1904)	1
University of Louisville	(1, 1908) (1, 1909)	2
Tulane University of Louisiana	(1, 1899) (6, 1909)	7
Woman's Medical College of Baltimore	(1899)	1
Mississippi Medical College	(1, 1903) (2, 1909)	3
Cornell University Medical College	(1900)	1
Columbia University, College of Phys. and Surg.	(1906)	1
University of Pennsylvania	(1907)	1
College of Physicians and Surgeons, Memphis	(1907)	1
University of Nashville	(1, 1906) (1, 1907) (1, 1908)	3
University of the South	(1908)	2
Vanderbilt University	(1909)	3
Memphis Hospital Medical College	(1, 1894) (1, 1895) (1, 1904) (1, 1908) (14, 1909)	18
Meharry Medical College	(1907)	1
University of Tennessee	(1905)	1
FAILED		
National Medical University	(1908)	1
Louisville Medical College	(1904)	1
Tulane University of Louisiana	(1908)	1
Mississippi Med. Coll.	(2, 1907) (3, 1908) (9, 1909)	14
St. Louis College of Physicians and Surgeons	(1908)	1
Vanderbilt University	(1908)	1
Memphis Hospital Medical College	(1,1903) (1, 1906) (2, 1908) (8, 1909)	12
University of Nashville	(1,1902) (1, 1903) (1, 1905) (1, 1906) (1, 1909)	5
University of Tennessee	(1909)	2
College of Physicians and Surgeons, Memphis	(1909)	1
Meharry Medical College	(2, 1907) (4, 1908) (3, 1909)	9
University of the South	(1906)	1
University of Virginia	(1908)	1

Georgia October Report

Dr. E. R. Anthony, secretary of the Regular Board of Medical Examiners, reports the written examination held at Atlanta, Oct. 12-13, 1909. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 80. The total number of candidates examined was 13, of whom 12 passed and 1 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Southern Medical College, Atlanta	(1897)	87
Atlanta College of Physicians and Surgeons	(1909)	84
Atlanta Medical College	(1893)	92
College of Physicians and Surgeons, Boston	(1908)	82
Leonard Medical School	(1909)	87
Medical College of Ohio	(1907)	88
Jefferson Medical College	(1909)	89
Chattanooga Medical College	(1901)	82
Meharry Medical College	(1895) 81; (1907)	80
University of the South	(1906)	80
University College of Medicine, Richmond	(1909)	90
FAILED		
Knoxville Medical College	(1908)	75

Association News

NEW MEMBERS

List of new members of the American Medical Association for the month of October, 1909:

ALABAMA

Blackshear, R. D., Dothan.
Cowan, S. C., Union Springs.
Dean, T. J., Union Springs.
Hilliard, C. W., Dothan.
Lay, H. T., Montgomery.
May, W. L., Maben.
Peterson, J. J., Mobile.
Pollard, C. T., Montgomery.
Wood, J. H., Attalla.

ARKANSAS

Baines, Swartz, Bergman.
Crow, M. T., Ingalls.

CALIFORNIA

Byington, F. S., Los Angeles.
Fairchild, F. D., Los Angeles.
Francis, W. V. C., Los Angeles.
French, J. R., Los Angeles.
Gladding, C. F., Sacramento.
Johnson, P. V. K., Los Angeles.
Newcomb, R. H., Pasadena.

DISTRICT OF COLUMBIA

Schneider, E. C., Washington.

FLORIDA

MacKethan, D. G., Tampa.

GEORGIA

Hawkins, J. S., Savannah.
Kitchens, T. Neal, Columbus.
Martin, F. M., Shellman.
Thomas, M. R., Savannah.
Walker, Sidney, Dublin.

ILLINOIS

Anderson, S. L., DeKalb.
Boots, F. W., Hanover.
Burgess, C. O., Monmouth.
Culver, D. D., Aurora.
Culver, G. S., Sandwich.
Jones, C. D., Aurora.
Oleson, R. B., Lombard.
Reder, A. R., Aurora.

INDIANA

Colglazier, G. G., Leipsic.
Marshall, R. E., Elwood.
McFarlin, J. T., Williams.
Wickens, Mary, Richmond.

IOWA

Burke, C. B., Atlantic.
Conrad, Belle, Webster City.
Halstead, F. R., Muscatine.
Hawley, O. B., Corning.
Hoag, H. M., Garner.
Landes, L. J., Grand River.
Lange, A. F., Braddyville.
Leonard, B. B., Holstein.
Mighell, N. E., Marshalltown.
Parker, A. W., Shenandoah.
Rumbaugh, G. T., Villisca.
Thompson, C. E., Marne.

KANSAS

Caldwell, J. S., Kingman.
Emerson, F. G., Wellington.
Gage, G. R., Hutchinson.
McGee, C. J., Leavenworth.
Perkins, Anna, Eldorado.
Thompson, S. H., Kansas City.

KENTUCKY

Daily, H. J., Owingsville.
Haack, O. B., Louisville.
Ott, C. F., Louisville.

LOUISIANA

Pothier, O. L., New Orleans.

MAINE

Haskell, W. L., Lewiston.

MARYLAND

Esker, H. H., Baltimore.
Sanderson, J. W., Baltimore.

MASSACHUSETTS

Cote, H. J., Boston.
Dearborn, G. V. N., Cambridge.
Giddings, H. G., Boston.
Schmidt, R. D., Boston.

MICHIGAN

Baskett, L. W., Ann Arbor.
Chisholm, G. W., Pontiac.
Coffin, L. E., Iron Mountain.
Evans, W. A., Bellaire.
Howe, L. W., Pellston.
Marshall, W. H., Boyne City.

MINNESOTA

Haverfield, A. R., Minneapolis.
Leavitt, H. H., Minneapolis.
Worthing, I. E. M., Austin.

MISSOURI

Neville, E. J., St. Louis.
North, W. R., St. Louis.
Reber, L. W., St. Louis.
Sahlender, O. L., St. Louis.

NEBRASKA

Davies, C. H., Ingleside.
Foster, R. H., Prosser.
Hull, C. A., Omaha.
Wenger, E. S., Lincoln.

NEW HAMPSHIRE

Baker, N. C., Milford.
Fitch, E. M., Claremont.

NEW JERSEY

Cosgrove, S. A., Jersey City.
Faulkner, M. R., Vineland.
Kerns, F. J., Newark.

NEW YORK

Botsford, L. B., Brooklyn.
Bowles, F. J., New York City.
Clarke, L. V., Far Rockaway.
Curry, Stanton, Peekskill.
Holly, I. MacM., Brooklyn.
Potter, J. H., Buffalo.
Smith, L. H., Palmyra.
Trudeau, E. L., Saranac Lake.
Wagner, J. J., Brooklyn.

NORTH CAROLINA

Guerard, A. R., Flat Rock.
Powell, R. A., Caroleen.

NORTH DAKOTA

Law, H. W. F., Hannah.
McKay, J. A., Clyde.

OHIO

Sandoe, DeNevin, Columbus.
Ulmer, C. A., Bucyrus.
VanWinkle, B. L., Belpre.

OKLAHOMA

Antle, H. C., Renfrow.
Swank, J. R., Coldwater.

PENNSYLVANIA

Brice, P. J., New Castle.
East, A. F., Reading.
Hogue, J. D., Altoona.
Hutt, W. H., Philadelphia.
Keller, A. H., Philadelphia.
Marshall, C. C., Pittsburg.
Roland, Charles, Reading.

RHODE ISLAND

Howe, G. J., Central Falls.

SOUTH CAROLINA

Bailey, T. W., Greenville.
Black, D. S., Columbia.
Wilson, E. R., Sumter.

TENNESSEE

Frayser, B. H., Sewanee.
Jones, D. L., Dresden.
McFall, R. J., Cumberland City.
Pollard, T. G., Nashville.
Robbins, C. D., Gordonville.

TEXAS

Turner, J. S., Dallas.

UTAH

Light, C. A., Salt Lake City.

VERMONT

Wakefield, Alice E., St. Johnsbury.

VIRGINIA

Brock, C. W. P., Richmond.

WASHINGTON

Cameron, S. D., North Yakima.

WEST VIRGINIA

McGuire, J. P., Clarksburg.
Rowsey, J. H., Huntington.
Wilson, J. E., Clarksburg.

WISCONSIN

Beech, G. D., Baraboo.
Birkl, J. A., Milwaukee.
Pratt, E. C., Casco.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

LITERATURE ON PELLAGRA

To the Editor:—I desire to refer to the back numbers of THE JOURNAL containing articles on pellagra. Not having an index number, I am unable to tell in which numbers these articles may be found. C. R. BELL, Peoria State Hospital.

ANSWER.—The following articles and editorials have appeared in THE JOURNAL:

Searcy, George H.: An Epidemic of Acute Pellagra, THE JOURNAL A. M. A., July 6, 1907, xlix, 37.

Merrill, T. C.: A Sporadic Case Diagnosed as Pellagra, ibid, Sept. 14, 1907, xlix, 940.

Bellamy, R. Harllee: Pellagra; Its Occurrence in This Country: Report of Cases, ibid, Aug. 1, 1908, li, 397.

Vienna Letter: Governmental Precautions Against Pellagra, ibid, Aug. 1, 1908, li, 420.

Moore, N. M.: Pellagra: Report of Case, with Remarks on Etiology, ibid, Sept. 26, 1908, li, 1076.

Cole, H. P.: Transfusion of Blood in a Case of Pellagra, ibid, Feb. 20, 1909, lii, 632.

Walker, N. P.: Clinical Features of So-Called Acute Pellagra, ibid, July 3, 1909, liii, 15.

Wood, Edward Jenner: The Appearance of Pellagra in the United States, ibid, July 24, 1909, liii, 274.

Williamson, O. L.: Pellagra in Arkansas, ibid, Aug. 28, 1909, liii, 717.

Vienna Letter: Pellagra in Austria, ibid, Sept. 4, 1909, liii, 808.

Editorial: Treatment of Pellagra, ibid, Sept. 25, 1909, liii, 1033.

Hewitt, J. H.: Pellagra in Virginia, ibid, Oct. 2, 1909, liii, 1085.

Pollock, Lewis J.: Pellagra; Its Occurrence in the Cook County Institutions, ibid, Oct. 2, 1909, liii, 1087.

Editorial: Pellagra, ibid, Oct. 2, 1909, liii, 1106.

Bass, C. C.: Complement Fixation with Lecithin as Antigen in Pellagra, ibid, Oct. 9, 1909, liii, 1187.

Editorial: The Italian Congress on Pellagra, ibid, Oct. 23, 1909, liii, 1405.

Dock, George: A Visit to the Pellagrosarium at Rovereto, ibid, Oct. 30, 1909, liii, 1499.

King, Howard D.: Pellagra, Ancient and Modern, ibid, Nov. 6, 1909, liii, 1556.

The following articles in other periodicals also may be consulted:

Tizzoni, G.: Experimental Study of Pellagra, *Gazz. d. osp.*, 1907, xxviii.

Delaco, P.: Skin Symptoms of Pellagra (Pellagrösen Hautsymptome), *Wien. klin. Wchnschr.*, 1907, xx; abstr. in THE JOURNAL A. M. A., Sept. 14, 1907, xlix, 975.

Babes, V.: Treatment of Pellagra with Atoxyl, *Bull. de l'Acad. de méd.*, July 23, 1907, lxxi, No. 30.

Babes, V., and Vasiliu, A.: Further Experience with Atoxyl in Pellagra, *Berl. klin. Wchnschr.*, Sept. 23, 1907, xliv, No. 38.

Tizzoni, G.: Bacteriologic Research on Pellagra, *Gazz. d. osp.*, Dec. 1, 1908, xxviii, No. 147.

Babcock, J. W., and others: What are Pellagra and Pellagrous Insanity? Does Such a Disease Exist in South Carolina, and What are Its Causes? *Jour. South Carolina Med. Assn.*, February, 1908; abstr. in THE JOURNAL A. M. A., April 18, 1908, l, 1304.

Ronzani, E.: Hygienic Care of Grain in Prophylaxis of Pellagra, *Gazz. d. osp.*, July 26, 1908, xxix, No. 89.

Guyot, G.: Experimental Pellagra, ibid, Aug. 18, 1908, xxix, No. 93.

Savini-Lojani, L.: The Blood in Experimental Pellagra, ibid, Sept. 6, 1908, xxix, No. 107.

Nicolas, J., and Jambon, A.: The Syndrome of Pellagra, *Ann. de dermat. et de syph.*, 1908, ix.

Watson, J. J.: Etiology of Pellagra—The Italian Maize Theory, or the Theory of Lombroso, *Jour. South Carolina Med. Assn.*, November, 1908; abstr. in THE JOURNAL A. M. A., Jan. 9, 1909, liii, 167.

Taylor, J. H.: Protozoan Theory of Pellagra, *Jour. South Carolina Med. Assn*, November, 1908; abstr. in THE JOURNAL A. M. A., Jan. 9, 1909, liii, 167.

Wood, E. J.: Pellagra—Problems in the Study of its Etiology, *Jour. South Carolina Med. Assn.*, November, 1908; abstr. in THE JOURNAL A. M. A., Jan. 9, 1909, liii, 167.

Moore, N. M.: Etiology of Pellagra, *Journal South Carolina Med. Assn.*, November, 1908.

Thompson, J. L.: Roumanian Theory as to the Cause of Pellagra, ibid., November, 1908.

Babcock, J. W.: Diagnosis and Treatment of Pellagra, ibid, November, 1908; abstr. in THE JOURNAL A. M. A., Jan. 9, 1909, liii, 167.

Griffin, H. H.: Pathology of Pellagra, *Jour. South Carolina Med. Assn.*, November, 1908.

McConnell, H. E.: Clinical Observations on Pellagra, ibid, November, 1908; abstr. in THE JOURNAL A. M. A., Jan. 9, 1909, liii, 168.

Neuffer, G. A.: Four Cases of Pellagra, *Jour. South Carolina Med. Assn.*, November, 1908.

Taylor, I. M.: Personal Experience with Some Cases of Nervous and Mental Diseases Showing the Pellagra Syndrome, ibid, November, 1908; abstr. in THE JOURNAL A. M. A., Jan. 9, 1909, liii, 168.

Whaley, E. M.: Examination of the Eyes in Eighteen Cases of Pellagra; *Jour. South Carolina Med. Assn.*, November, 1908.

McCampbell, J. M.: Theory as to the Cause of the Recent Appearance in this County of Pellagra, ibid, November, 1908, abstr. in THE JOURNAL A. M. A., Jan. 9, 1909, liii, 168.

Searcy, G. H.: Pellagra in the Southern States, *New Orleans Med. and Surg. Jour.*, December, 1908.

Randolph, J. H.: Pellagra and Pellagrins, *Arch. Int. Med.*, January, 1909; abstr. in THE JOURNAL A. M. A., March, 6, 1909, liii, 801.

Babes, V., Vasiliu, A., and Gheorghus: Treatment of Pellagra with Atoxyl plus Arsenic Trioxid, *Berl. klin. Wchnschr.*, Feb. 8, 1909, xlvi, No. 6.

Sofer, L.: Campaign Against Pellagra in Austria, *Therap. Monatsh.*, April, 1909, xxiii, No. 4; abstr. in THE JOURNAL A. M. A., May 15, 1909, liii, 1631.

Thayer, W. S.: Pellagra in Maryland, *Bull. Johns Hopkins Hosp.*, July, 1909; abstr. in THE JOURNAL A. M. A., July 31, 1909, liii, 414.

Alsberg, C. L.: Agricultural Aspects of the Pellagra Problem in the United States, *New York Med. Jour.*, July 16, 1909; abstr. in THE JOURNAL A. M. A., May 8, 1909, liii, 1537.

Lavinder, C. H.: Etiology of Pellagra, *New York Med. Jour.*, July 16, 1909; abstr. in THE JOURNAL A. M. A., May 8, 1909, liii, 1537.

Thomas, J. N.: Two Cases of Pellagra, *New Orleans Med. and Surg. Jour.*, July, 1909.

Bondurant, E. D.: Report of Nine Cases of Pellagra, *Med. Rec.*, Aug. 21, 1909; abstr. in THE JOURNAL A. M. A., Sept. 4, 1909, liii, 813.

Bass, C. C.: Pellagra; Report of Eleven Cases from Mississippi, *New Orleans Med. and Surg. Jour.*, September, 1909.

Wollenberg, R. A. C.: Pellagra in Italy, *Pub. Health Rep.*, July 23, 1909; abstr. in THE JOURNAL A. M. A., Oct. 16, 1909, liii, 1307.

Drewry, W. F.: Pellagra; Report of Fourteen Cases, *Virginia Med. Semi-Month.*, Sept. 24, 1909.

Lavinder, C. H.: Prognosis and Treatment of Pellagra, *Jour. South Carolina Med. Assn.*, September, 1909.

Lavinder, C. H.: Pellagra, *Pub. Health Rep.*, Sept. 1909.

Carter, Marion H.: Pellagra, *McClure's Magazine*, November, 1909, xxiv, 94.

LITERATURE ON ACUTE PURULENT THYROIDITIS

To the Editor:—Please give references regarding the literature on acute purulent thyroiditis. The condition is evidently a primary one, and not the result of a general infection. C. B. O.

ANSWER.—The following are some of the references to the literature of recent years:

Meara, F. S., and MacGregor, R. S.: Case of Acute Suppurative Thyroiditis with Pressure Symptoms Relieved by Intubation, *Arch. Pediat.*, August, 1906.

Variot and Roland: Un cas de thyroidite aiguë, *Bull. Soc. de pediat de Par.*, 1907, ix, 111; *Ann. de méd. et chir. inf.*, Paris, 1907, xi, 316.

Roger, H.: Thyroidite typhique suppurée à bacille d'Eberth, *Montpel. méd.*, 1907, xxiv, 193-202.

Lamb, S. D.: Case of Acute Thyroiditis, *Wash. Med. Ann.*, 1907-8, vi, 243.

Cepparello, T.: Un caso di flemmone della regione tiroidea. Osservazione clinica, *Riforma med.*, 1908, xxiv, 934.

Melandri, G. F., and Legg, T. P.: Acute Suppuration in a Thyroid Adenoma Due to the Bacillus Typhosus, *Lancet*, London, Jan. 25, 1908.

CATHARSIS AND DIURESIS IN ACUTE INFECTIOUS DISEASES

To the Editor:—To stimulate elimination by the use of cathartics and diuretics is often advised as part of the treatment in acute infectious diseases, for instance, pneumonia.

1. Is there any proof that elimination through the bowels or kidneys plays any part in the cure of those diseases?
2. Is there any proof that elimination of toxins through the bowels is increased by the use of cathartics?
3. Is there any proof that elimination of toxins or bacteria through the kidneys is increased by the use of diuretics?
4. Have any experiments been made showing that animals injected with bacterial toxins or bacteria do better with the use of cathartics or diuretics? H. HAEREM, Story City, Iowa.

ANSWER.—These questions may be answered in the negative, so far as positive demonstration is concerned. Clinical experience, however, affords many examples of rapid recovery from toxemia or infection after a free evacuation of the bowels. The exact way in which these results are brought about is not known and the question given may stimulate more exact investigation and a rational criticism of our accepted methods of treatment.

"SEMELINCIDENT" AND "IMMUNIFACIENT"

To the Editor:—In offering the new word "semelinicident," referring to the class of diseases which occur once only (THE JOURNAL, Sept. 18, 1909, liii, 963), I had also thought of a word similar to your very good word "immunifacient." I cannot think, however, that your word refers quite as directly to the idea as mine. Your word includes also the effects of vaccination, antitoxins and all serum treatment, does it not? Mine, on the other hand, not only directs attention to the one fact that these ailments happen once in a life-time, but emphasizes the fact that it is but once. They are both good words and needed words, but not quite synonyms.

T. L. HAZZARD, Pittsburg, Pa.

The Public Service

Medical Department of the Army

Changes for the week ended Nov. 6, 1909:

La Garde, L. A., lieut. col., assigned as president of the faculty, Army Medical School.

Grubbs, R. B., capt., granted an extension of 1 month to his leave of absence.

Harris, H. S. T., lieut. col., ordered to Hawaiian Islands on November 5 transport, to inspect hygienic and sanitary conditions at Hawaiian posts.

Bushnell, G. E., lieut. col., granted leave of absence for 6 months, on account of sickness.

Bartlett, C. J., capt., granted leave of absence for 3 months.

Wilson, Elsworth, M. R. C., Archer, W. M., Jr., and Philips, H. F., M. R. C., relieved from duty at their present stations, and ordered to San Francisco, to sail Jan. 5, 1910, for Philippine service.

Medical Corps of the Navy

Changes for the week ended Nov. 6, 1909:

McCormick, A. M. D., surgeon, detached from temporary duty at the Works of the General Electric Company, Schenectady, N. Y., and ordered home to wait orders.

Kelley, H. L., asst.-surgeon, detached from the First Torpedo Flotilla on board the *Decatur* and ordered to the Naval Hospital, Canacao, P. I.

Higgins, S. L., asst.-surgeon, detached from the Naval Hospital, Canacao, P. I., and ordered to the *Wilmington*.

Koltes, F. X., asst.-surgeon, detached from the *Wilmington* and ordered to the Naval Station, Cavite, P. I.

Huff, E. P., asst.-surgeon, detached from the Naval Station, Olongapo, P. I., and ordered to the *Villalobos*.

Smith, H. L., asst.-surgeon, detached from the *Villalobos* and ordered to the Naval Station, Olongapo, P. I.

Lee, A. E., asst.-surgeon, detached from the *Rainbow* and ordered to the *Albatross*.

McCormick, A. M. D., surgeon, ordered to duty in connection with the fitting out of the *Michigan*, and to duty on board that vessel when commissioned.

Shiffert, H. O., surgeon, commissioned surgeon from April 1, 1909.

Wieber, F. W. F., surgeon, detached from the Naval Station, Cavite, P. I., and ordered home, with permission to delay 2 months, en route.

Ledbetter, R. E., surgeon, ordered to the Naval Station, Cavite, P. I.

Butts, H., asst.-surgeon, detached from the Naval Station, Cavite, P. I., and ordered home via the Suez Canal.

Henry, R. B., asst.-surgeon, ordered to the *Rainbow*.

Noble, D. H., asst.-surgeon, ordered to the Naval Station, Olongapo, P. I.

Harlan, T., acting asst.-surgeon, ordered to duty with the First Torpedo Flotilla Pacific Fleet.

Public Health and Marine-Hospital Service

Changes for the seven days ended Nov. 3, 1909:

Carmichael, D. A., surgeon, granted 18 days' leave of absence from Nov. 15, 1909.

White, J. H., surgeon, directed to report at Bureau on special temporary duty.

Woodward, R. M., surgeon, granted 14 days' leave of absence from Oct. 30, 1909, on account of sickness.

Stoner, J. B., surgeon, granted 10 days' leave of absence from Nov. 2, 1909.

Stimpson, W. G., surgeon, relieved from duty on Revenue Cutter *Manning*, and directed to proceed to Philadelphia, and assume charge of the Service, relieving Passed Assistant Surgeon R. H. Creel.

Rosenau, Milton J., surgeon, resignation accepted to take effect Jan. 31, 1910, revoked, by direction of the President, Oct. 29, 1909.

Rosenau, Milton J., surgeon, granted 5 months' leave of absence, without pay, from Feb. 1, 1910.

Foster, M. H., P. A. surgeon, directed to proceed to Antwerp, Belgium, on special temporary duty, and on completion of said duty, report to the medical officer in charge at Naples, Italy, for duty.

Fox, Carroll, P. A. surgeon, relieved from duty on Revenue Cutter *Bear*, and directed to proceed to Washington, D. C., and report to the Director of the Hygienic Laboratory for duty.

Gwyn, M. K., P. A. surgeon, granted 3 days' leave of absence from Oct. 30, 1909, under paragraph 191, Service Regulations.

Roberts, Norman, P. A. surgeon, granted 2 days' leave of absence from Nov. 1, 1909, under paragraph 191, Service Regulations.

Hunt, Reid, chief, Division of Pharmacology, Hygienic Laboratory, detailed to attend the National Conference on Pellagra, to be held in Columbia, S. C., Nov. 3-4, 1909.

Alexander, E., acting asst.-surgeon, granted 15 days' leave of absence from Nov. 4, 1909.

Deerhake, William P., acting asst.-surgeon, granted 1 day's leave of absence in October, 1909, under paragraph 210, Service Regulations.

Gill, S. G., acting asst.-surgeon, granted 21 days' leave of absence from November 9, 1909.

James, William F., acting asst.-surgeon, granted 30 days' leave of absence from Nov. 4, 1909.

APPOINTMENT

Dr. Charles Bell, appointed an acting assistant surgeon for duty at Detroit.

RESIGNATION

Joseph H. Kastle, chief, Division of Chemistry, Hygienic Laboratory, resigned, to take effect Sept. 30, 1909.

Health Reports

The following have been reported to the Marine-Hospital Service, during the week ended Nov. 5, 1909:

SMALLPOX—UNITED STATES

District of Columbia: Washington, Oct. 17-23, 1 case.
Georgia: Macon, Oct. 9-15, 2 cases.
Illinois: Chicago, Oct. 17-23, 1 case.
Indiana: Indianapolis, Oct. 18-24, 2 cases.
Massachusetts: Boston, Oct. 17-23, 1 death.
North Carolina: Charlotte, Oct. 16-22, 2 cases.
North Dakota: Henry County, Aug. 1-31, 5 cases.
Ohio: Dayton, Oct. 17-23, 2 cases.
Texas: San Antonio, Sept. 5-Oct. 2, 4 cases.
West Virginia: Wheeling, Oct. 17-23, 1 case.

SMALLPOX—FOREIGN

Algeria: Algiers, Sept. 1-30, 4 deaths; Bona, Sept. 1-30, 5 cases, 3 deaths.
Brazil, Sept. 11-26, 7 cases.
China: Amoy, Sept. 5-11, 1 death.
Egypt, general, Sept. 17-23, 9 cases, 4 deaths; Alexandria, Sept. 10-23, 2 deaths; Cairo, Sept. 24-30, 2 deaths.
France: Marseille, Sept. 1-30, 2 cases.
Greece: Athens, Sept. 19-25, 2 deaths.
India: Madras, Sept. 18-24, 2 deaths.
Indo-China: Saigon, Sept. 6-13, 1 case, 1 death.
Italy, general: Naples, Oct. 4-10, 6 cases.
Mexico: Veracruz, Oct. 11-17, 4 cases, 1 death.
Portugal: Lisbon, Oct. 3-9, 12 cases.
Russia: Odessa, Sept. 27-Oct. 2, 7 cases, 2 deaths; Moscow, Sept. 27-Oct. 2, 1 case, 3 deaths; Warsaw, Aug. 29-Sept. 4, 1 death.
Spain: Almeria, July 1-Aug. 31, 8 deaths; Barcelona, Oct. 4-11, 3 deaths; Madrid, Sept. 1-30, 109 deaths; Valencia, Oct. 2-9, 2 cases; Vigo, present.
Turkey: Bagdad, Aug. 15-Sept. 18, present; Constantinople, Oct. 4-10, 1 death; Smyrna, Sept. 29-Oct. 5, epidemic.

CHOLERA

Belgium: Antwerp, Oct. 21-27, 8 cases, 6 deaths, in vicinity.
China: Amoy, Sept. 5-18, 39 deaths; Hankow, Sept. 25, present; Shanghai, Sept. 12-18, present.
Germany: Heysenkunig, district, Oct. 20, 1 case; Niederung, Oct. 16-20, 2 deaths; Tilsit, Oct. 11, 1 death.
India: Calcutta, Sept. 11-18, 8 deaths.
Java: Batavia, district, Sept. 12-18, 35 cases, 30 deaths.
Korea: Seoul, Sept. 21, estimated 100 cases daily.
Manchuria: Dalny, Sept. 19-25, 5 cases, 7 deaths.
Netherlands: Hattem, Oct. 1-8, 4 cases, 1 death.
Russia: Riga, Oct. 2-8, 16 cases, 4 deaths.
Straits Settlements: Singapore, Sept. 12-18, 1 death.

YELLOW FEVER

Brazil: Para, Sept. 27-Oct. 9, 9 cases, 6 deaths.
Mexico: Merida, Oct. 8-14, 1 case.

PLAGUE

Australia: Brumby, June 4, 1 case, on steamship *Zoroaster*.
Brazil: Rio de Janeiro, Sept. 20-26, 1 case, 1 death.
Chile: Iquique, Sept. 9-22, 2 cases, 2 deaths, Sept. 22, 2 cases in the lazaretto.
China: Amoy, Sept. 5-18, 86 deaths.
Ecuador: Guayaquil, Sept. 19-25, 9 deaths.
Hawaii: Hilo, Pepeekeo, Oct. 4, 1 case, 1 death.
India: Calcutta, Sept. 12-18, 9 deaths.
Indo-China: Saigon, Sept. 7-13, 7 cases, 7 deaths.
Mauritius, Aug. 13-19, 2 cases, 2 deaths.
Peru, general, Aug. 28-Sept. 23, 14 cases, 10 deaths.
Zanzibar, Oct. 20-26, 2 deaths.

Society Proceedings

COMING MEETINGS

American Physiological Society, Washington, D. C., December 28-30.
Hawaiian Territorial Medical Society, Honolulu, November 19.
Southern Surg. & Gynecological Assn., Hot Springs, Va., Dec. 20-21.

CONFERENCE ON PELLAGRA

Held under the auspices of the South Carolina State Board of Health at the State Hospital for the Insane, Columbia, S. C., Nov. 3-4, 1909

[SPECIALLY REPORTED FOR THE JOURNAL]

The conference met at 2:30 p. m. and was called to order by Dr. C. F. Williams, Secretary of the State Board of Health.

An address of welcome was delivered by Governor Ansel, which was responded to for the conference by Dr. William C. Woodward, Washington, D. C.

Pellagra from an English Viewpoint

DR. F. M. SANDWITH, London, England: Maize (*Zea mays*) was introduced into Egypt as a cereal from Syria about 1840, yet pellagra was not discovered until 1893, though it has, perhaps, been present for years in the country districts. In spite of denial from American authorities on medicine, I have always suspected that pellagra might exist, unrecognized, in the South, and at one time I requested my friends to put me into communication with the poorest folk of the maize-eating districts. I was referred to a settlement in Eastern Virginia for pauper negroes, but, on investigation, I found that the inmates lived in stone houses on pork rations and I came to the conclusion that the word poverty represented no condition in America which could compare with the misery of the impoverished peasants of Italy, Roumania and Egypt. During the South African war I found myself surrounded by poor colored folk living on maize, and I naturally expected to find pellagra

among them, but every medical man practicing in the country assured me that no such disease had ever been seen. Yet, in 1900, I saw two cases of pellagra among the lunatics of Robben Island, Cape Town, and had previously recognized a third case at Bethlehem Hospital (London) which had been imported from South Africa.

Now that the diagnosis of pellagra has been firmly established in so many states, it would be well to find out for certain how many people are attacked by the disease in the South. In order to arrive at any correct figures, it might be well to institute compulsory notification of the disease, at least as a temporary measure. In Italy there has been a law to that effect since 1888. The lunatic asylums will continue to yield a certain number of advanced cases, but pellagra should be searched for among the out-patients of general hospitals and in the private practice of country doctors. I would also recommend that agricultural laborers should be examined in the states where pellagra is known to be prevalent, such as Georgia and North and South Carolina. This might be done in February or March, when the eruption is likely to be present.

In 1901-2 I obtained permission to examine 500 Egyptian peasants who were actually at work in the fields; they all stoutly denied that they were ill, and their employers, who worked them, stated that they could all do a fair day's work. Yet in every field I found early stages of pellagra, varying from 15 per cent. in well-to-do districts to 62 per cent. in the inhabitants of the poorest hamlets. If a complete census could be obtained of the pellagrous it might be found that the two sexes suffer equally, unless the women have a less varied diet than the men, and I shall be surprised to learn that the children (after the age of ten) are fairly exempt, as more than one American writer has stated during the last two years. One of the objections to the diseased maize theory of causation is that cases are sometimes reported of pellagra occurring among those who have never eaten maize. In examining more than 1,000 cases of pellagra, I have, of course, often encountered individuals who stated that they were not maize eaters, but on cross-examination every one of them pleaded guilty to having occasionally eaten bread which was partly made from maize flour. I therefore venture to suggest that in any undoubted case of pellagra the patient should be thoroughly questioned, before we inculpate a second cereal or attempt to overthrow the belief that diseased maize is a potent factor in the etiology.

Two cases of pellagra have recently been recorded in patients who had never been out of the British Isles, but the published accounts do not tally with the disease as I know it, though the symptoms were somewhat similar to pellagra. One of the patients had never eaten maize but had devoured raw oatmeal and rice. There are certain general axioms which prove true in Italy and Egypt, and it will doubtless be found that they hold good in the United States also:

1. In districts where no maize is cultivated or habitually eaten, pellagra does not exist.

2. There are many districts where maize has been cultivated for many years and yet pellagra has not appeared.

3. Well-to-do-people in pellagra districts, living on varied diet and consuming maize as an occasional, and not as the staple cereal, usually escape pellagra.

4. It is not good maize or good maize flour which produces pellagra; the disease requires for its production the habitual use of damaged maize in some form.

There is a vast amount of Italian literature dealing with the question of what the damage may be, and there is now a considerable consensus of opinion in favor of incriminating *Penicillium glaucum* or bread-mold in ordinary pellagra.

5. We are constantly being reminded by skeptics that the maize area of the world is infinitely greater than the pellagra area. This is not the point. The question is, does not pellagra distribution correspond very nearly with the areas on which human beings live who eat damaged maize or products made from damaged maize?

Pellagra as a National Health Problem

DR. J. W. KERR, U. S. Public Health and Marine-Hospital Service: The disease is serious, and its occurrence in the United States is a matter of grave concern. In Europe an enormous amount of study has been devoted to problems connected with the prevalence of this disease. The problems of pellagra are in some respects analogous to those of beriberi, since both diseases are held to be associated with the consumption of important articles of diet, both are capable of becoming veritable scourges among the people of countries where they become endemic, and in neither case has the etiology been definitely determined. It has not been deemed necessary by the national government to institute quarantine procedures against either disease. The Public Health and Marine-Hospital Service is ever alive to the importance of exotic diseases, and through its officers stationed abroad, and other sources, evidence has been accumulated that neither disease is directly communicable, and that where they prevail, there also must their causes be sought. During the past two or three years the Public Health and Marine-Hospital Service has investigated pellagra and has distributed 23,000 copies of articles on that subject.

A plan of investigations has been submitted to the Advisory Board of the Hygienic Laboratory and the preliminary steps were taken in the Hygienic Laboratory in Washington and the State Hospital for the Insane in Columbia, S. C.

The increasing prevalence of the disease is indicated by records of approximately 1,200 cases scattered over thirteen states up to June last, and conservative estimates that the total number of cases at the present time probably aggregate 5,000. This apparent increase of cases is due not wholly to an increasing prevalence of the disease, but also to the recognition of existing cases as knowledge of the disease spreads and skill in diagnosis develops among a profession hitherto largely unfamiliar with the subject. On account of the apparent increase and because of the lack of definite knowledge as to its etiology, the disease is held to be of national importance; the annual report of the Surgeon-General of the Public Health and Marine-Hospital Service shows that pellagra should receive unremitting study. The Surgeon-General has designated a commission of scientific workers who will concentrate their energies on different phases of the problem with the view to its further elucidation. This commission consists of Passed Assistant Surgeon John F. Anderson, Director of the Hygienic Laboratory; Dr. Reid Hunt, Chief Division of Pharmacology of the Hygienic Laboratory; Surgeon M. J. Rosenau, of Harvard University; Passed Assistant Surgeons C. H. Lavinder and John D. Long, of the Hygienic Laboratory, and Dr. Nicolas Achuccaro, of the Government Hospital for the Insane, Washington, D. C. The belief that there is some relationship between pellagra and the use of corn as food, is too universal and too profound to permit of rejection except in the case of demonstrative proof to the contrary. At the same time, the exact nature of this relationship awaits final solution, and as there is evidence that sound corn is a highly nutritive and valuable food, to counsel its total rejection would therefore be inadvisable except for purposes of investigation.

Economic Factors of the Pellagra Problem in South Carolina

MR. E. J. WATSON, Commissioner, Department of Agriculture, Commerce and Industries, Columbia, S. C.: The agitation of the whole question as to whether or not corn is the producing agency of pellagra—indeed the mere discovery of the disease—should admonish our people to do what we have been pleading with them for other economic reasons in season and out of season to do for their own protection, namely: raise their own home supplies. In this climate, corn matures and is liable to be pure, and our people owe it to themselves and their posterity to do their part. Today there is a mere handful of grist mills in operation within the state and their business is purely local. The first step, then, from an economic standpoint, is for the people of the affected states to raise and manufacture for human food purposes their own corn, and the second is, for them to put in full force a complete inspection system with means and men to execute the laws when once enacted.

Pellagra: Its Recognition in Illinois and the Measures Taken to Control It

DR. GEORGE A. ZELLER, Peoria, Ill.: To sum up the situation in the Peoria State Hospital on November 1, I will say that

since August 10 there have been officially recognized 130 well-defined and diagnosed cases of pellagra with 100 additional patients in the wards with symptoms sufficiently pronounced to warrant their inclusion, but who for the present are suffering no inconvenience. They are being carefully charted and will form the basis of observation for next year. Of the 130 cases, 75 were women and 55 men. Of these, 30 women and 15 men, a total of 45, died since August 10. Postmortem examinations were held in 36 of these cases. Of the living the average age is 51 years; average number of years insane, 16; average period resident in this institution, 3½ years. Of the dead, the average age at death was 54 years; average length of time insane of those who died, 17 years; average period of residence in this institution of those who died was four years. Of the living and dead the average age was 51 years; average period insane of the living and dead, 15 years; average period of residence of the living and dead in this institution, 4 years. Of the total number 12 were received from other asylums within the current year. The death-rate of patients actually transferred to the hospital for treatment has been 34 per cent. The youngest pellagrin was 22 years old; the oldest was 85 years old. Of the total 12 were epileptics and 7 were in an advanced stage of tuberculosis. The list contains but one colored person, a man, who survives with marked dry and thickened palmar tissue. If these are added to the 100 living patients still in the wards, the mortality stands 20 per cent.

Clinical Aspects of Pellagra

DR. J. F. SILER, Captain Medical Corps, U. S. A., drew the following conclusions: Paralysis of the eye muscles is found in the later stage of the disease in a small percentage of cases. Conjunctivitis is not an uncommon symptom. Early forming cataracts are frequently noted, and the metabolic nature of this disease is supported because this condition is generally considered as an altered state of the nutrition of the lens when occurring in normal individuals. Inflammation of the optic nerve and retina is observed in a relatively large percentage of cases. Common and most pronounced of all the eye changes is involvement of the chorioid. In none of the cases presenting eye symptoms could the character of the changes be regarded as pathognomonic of pellagra. The severity of the eye symptoms runs parallel with the severity of the general manifestations of the disease, and the finding of marked eye changes adds to the gravity of the prognosis in pellagra and indicates, in a large percentage of cases, an early fatal termination. The treatment of the condition is discouraging. Thyroid tablets were administered in a number of cases with no result. Fowler's solution, in increasing doses, was used without any noticeable effect. Atoxyl, in 5 grain doses, was used, one injection every seven days, and in only one or two cases could improvement be attributed directly to medication. Normal saline solution was used in the more severe cases with only temporary improvement. Bulgarian tablets were used in modifying the milk in the hope that improvement in intestinal symptoms might result. This diet had not been given extensive trial, and while no definite conclusions were reached, it is believed to be worthy of further trial.

Mortality.—Of the patients making up this series, 22 per cent. died, 10 per cent. were failing, 17 per cent. were improving, and 51 per cent. had recovered from the acute attack. It may conservatively be estimated that the death rate from pellagra at Peoria ranges between 25 and 30 per cent.

Summary.—1. A large percentage of the patients gave histories of previous attacks. 2. A large proportion of the patients had been insane for many years and gave histories of long stay in institutions. 3. About one-third of the patients showed other organic disease, exclusive of dysentery. 4. All patients showed cutaneous lesions involving back of hands and in a number of cases this was the only symptom noted. 5. Bleb formation occurred in a small percentage of the patients and a large percentage of those showing blebs died. 6. Symptoms involving the mouth and intestinal tract were characteristic in the more severe cases only. 7. The only reflexes of diagnostic value were the patellar and plantar reflexes. These reflexes, in a large percentage of cases, showed departure from the normal. 8. A small percentage of the patients were committed to the institution during the past two years and some of these cases may be pellagrous insanity.

The Etiology of Pellagra

DR. H. J. NICHOLS, Captain Medical Corps, U. S. A.: 1. Good corn is injurious in large quantities. This theory can hardly be used to explain the trouble at Peoria because the purchases for 1908 show only thirty-eight pounds a year per patient received, or a little over one ounce a day; as a matter of fact, some classes of patients receive rather more, but not exceeding two ounces a day in a liberal diet. It has been estimated that about sixteen ounces of white rice a day are necessary to produce beriberi. If corn holds the same relation to the disease a much larger amount would have been necessary at Peoria. 2. Spoiled corn is responsible: This is not the case so far as can be told by the senses. The corn used was inspected on the change and at the mill, and it is No. 2, the best that is on the market. Nothing in the way of a "food scandal" could be unearthed. The corn products do not have to be transported far, and if any poisons develop they cannot be told by ordinary means. 3. Toxins may be developed in the intestines by fungi or bacteria on a corn diet. In regard to moulds, several trials were made but no moulds were found that survive the heat of cooking. Of course, this does not exclude them, but it makes them seem less likely as a cause. On the other hand, a spore-bearing bacterium was repeatedly found in corn meal which survived steaming for two hours, and this seems to offer possibilities.

In order to learn something of parasites in corn a trip was made to the University of Illinois and it was found that only in recent years has any definite work been done on this subject, and much remains to be done, especially in regard to bacteria. The most common cause for disease of ears on the stalk has been found to be a kind of diplodia which has been stated by one author to be on the increase in recent years and along with aspergillus, pencillum, etc., has been advanced as a cause of pellagra. The department of botany has agreed to furnish us cultures of the known molds and bacteria, and work will be done with these. The most promising field seems to be along the line of an intoxication produced by toxin of corn products in a damaged intestine and this will be followed up. Several instances have been found of a toxic action for animals, first of an excessive corn diet, also of a diet of corn gluten infected with moulds; and there are, no doubt, several kinds of diseases connected in some way with corn, but pellagra must be due to one, not to several kinds of corn poisoning. The outstanding fact about corn raising in the last fifteen years is that the shelled corn is marketed from four to eight weeks earlier than it used to be; that the time of weathering and drying on the stock is cut short, and that more trouble is experienced in handling the corn and preventing it from going bad. This fact, with the considerable increase of the use of corn products in the past few years may prove to be of significance.

The recommendations respectfully submitted for the Peoria State Hospital are: 1. Cleaning out the pipes of the cold water supply; better protection of the surface tank; regular examinations of the water for bacteria and protozoa. 2. Examination of stools of possible cases of dysentery, especially among the untidy and appropriate treatment of dysentery cases. 3. Elimination of corn from the diet of the more debilitated patients.

Summary.—1. The pellagra patients at the Peoria State Hospital show a very high percentage of protozoal infections of the colon. 2. The study of the patients and diet points to some endogenous intoxication. 3. The protozoa may play an important part in the seasonal production and absorption of an endogenous toxin.

Discussion on Papers of Drs. Zeller, Siler and Nichols

DR. C. L. MINOR, Asheville, N. C.: Of the cases of pellagra observed in Asheville, the first was diagnosed by Dr. W. L. Dunn. Dr. Dunn had two or three cases of the disease during his hospital service, and I had two or three following him in my service. These cases were seen at the end of the season, and left the hospital in very good condition. They were ignorant

patients and thought they were well. Of the number seen, one proved fatal; in this case the disease was advanced. In the majority of the cases seen the people have been of the poorer class. One was a watchmaker by occupation, whose case was acute, and he died without the development of mental symptoms. The patients came to the hospital chiefly on account of diarrhea and an eruption on the hands. This eruption had been treated for various skin conditions by different physicians before a diagnosis of pellagra was made. The milder cases of pellagra may be easily overlooked among the farmer class of patients, for the reason that the hands of these patients look like those of a hard-working farmer, cracked and slightly inflamed. The stomatitis in the cases observed, with the exception of one which was severe, was mild. The chief diagnostic feature in every case was the skin condition. Only one patient showed mental symptoms. All had eaten largely of corn meal and lived under miserable conditions.

DR. C. F. WILLIAMS, Columbia, S. C.: I wish to mention a typical case of pellagra which I saw in 1899. The patient became insane a short time before death. The patient had what I and others termed then eczema. There was intense stomatitis, rapid emaciation, and diarrhea.

DR. L. J. POLLOCK, Dunning, Ill.: The first case occurring in the Cook County institutions was noted in August, 1909, when the diagnosis was as yet not made. With the subsequent occurrence of three other cases presenting the same symptomatology, course and fatal outcome, and not being familiar with the occurrence of pellagra in the United States, we came to the conclusion that we were dealing with a clearly defined disease with which we were unfamiliar. A clue as to its nature was offered to us in the description of pellagrous insanity in Bianchi's "Psychiatry." From the onset the next case was thought to follow closely the description of Italian pellagra, but it was not until the inquiry of the South Carolina State Board of Health was addressed to us that the diagnosis of pellagra was definitely made. The first public notice of the occurrence of pellagra in the Cook County institutions followed the confirmation of our diagnosis by Dr. C. H. Lavinder on July 18, 1909. The devious route by which we came to the conclusion that we were dealing with pellagra proclaims the necessity for widely distributing literature concerning the nature and prevalence of this condition throughout the United States. This importance is further emphasized by the fact that pellagra has existed in the Illinois institutions for a number of years before its recognition. Dr. Podstata, superintendent of the Northern Hospital for Insane, recalled cases occurring in his service several years ago. The entire number was 26; females, 13, all insane; males 13, 8 insane, 2 in the Poor House, and 2 in the Hospital for Tuberculosis. The duration of the fatal cases averaged thirty-four days. The duration in the remaining cases averaged forty days. The nativity was as follows: United States, 7; England, 1; Ireland, 9; Bulgaria, 1; Germany, 5; Denmark, 1; Austria, 1, and unknown, 1. Of those foreign, the Bulgarian was in this country six months; the others ranged from eight to forty years. They had been confined in the institution from four months to twelve years. The psychoses at the time of admission were as follows: Dementia paralytica, 4; alcoholic, 5; dementia præcox, 5; paranoia, 3; acute confusional, 1; melancholia, 1, and senile dementia, 3. The symptomatology has been, in general, fairly uniform. The course in those patients not dying during the acute exacerbation has been one of uniformly progressing cachexia and weakness, and despite the disappearance of the gastrointestinal lesions and skin disturbance, the patients progressively became weaker and died. Of those who died, numbering 14, one died of apoplectiform convulsions of dementia paralytica; one in a low muttering delirium, with choreiform movements; one of respiratory failure, two of tuberculosis, one of carcinoma of the stomach, the others of exhaustion. The medicinal treatment has consisted of the hypodermic administration of arsenic salts, with no appreciable effects. The pathology, as seen in the post-mortem examinations on four cases, showed nothing distinctive. Besides the findings of cachexia, some fatty degeneration of the liver, heart and kidneys, injection of the large intestines, prominent Peyer's patches showing a shaven-beard appearance near the ileocecal valve, and enlargement of the mestenric glands were present. In the nervous system there was some edema of the meninges, and microscopically chromatolysis of the anterior horn cells of the cord.

DR. C. H. LAVINDER: So far as the symptomatology of pellagra is concerned, especially with reference to the cases seen at the Peoria institution, I will say that the symptoms of pellagra vary in various sections of the country, and in various seasons of the same sections of the country. Some one particular phenomenon will be prominent in one case, which is not known or observed in others. In reference to Dr. Nichols' paper, working in Columbia with Dr. Babcock, I have not found amebic organisms associated with pellagra as often as he has found them.

DR. J. W. MOBLEY, Milledgeville, Ga.; I wish to refer to the complication of enteric ulcer associated with pellagra. As far back as 1897 at the Georgia State Sanitarium, according to the post-mortem examinations that were made, pigmentation of the hands and feet, with skin abrasions and stomatitis were observed, although at that time the cases were not considered pellagrous in character. I made many of these post-mortems myself and frequently found ulcers about the ileum which I have every reason to believe now were pellagrous. Dr. Willits, pathologist, in 500 unselected cases for examination, found parasitic infections in 57 per cent. of the cases, and of these 500 cases, 35 were pellagrous. Of the pellagrous cases, there were four in which there was infection with parasites, but the most important were infections from the strongyloides and hookworm.

DR. J. W. BABCOCK, Columbia, S. C.: I know many physicians connected with asylum work, but I do not know of a single one in America or in Europe who would come before an audience like this and proclaim in the way Dr. Zeller has done what he believes to be the truth in regard to pellagra and the condition that prevails at Peoria.

DR. JULIUS C. SOSNOWSKI, Charleston, S. C.: I can recall twelve cases of pellagra in Charleston, and of this number six patients were below the age of 14, 1 was 18, 4 were between 20 and 40, and 1 was over 40. Six were white and 6 were colored.

DR. M. B. YOUNG, Rock Hill, S. C.: Of the cases I have seen, I recall a child of two years and five months that had the disease.

DR. H. E. MENAGE, New Orleans: We have had in New Orleans a typical case of pellagra in a girl 4 years old. The child lived four weeks after we first saw the case. The disease had been of two or more years' duration. The pathologic findings in the brain were interesting. The child was idiotic and cried constantly. On opening the skull the brain cavity presented a peculiar appearance. The anterior convolution was large and edematous. The posterior convolution behind the fissure of Rolando was small and vermiform; it looked like a bundle of worms. On either side of the main commissure and back of the fissure of Rolando, bilaterally and symmetrically, there were two large cysts filled with fluid and encapsulated, with rather thick walls.

DR. JOHN W. THOMAS, Pineville, La.: I want to ask Dr. Zeller what rôle corn bread played in the dietary in his institution at Peoria.

DR. ZELLER: A very insignificant part; a little more than an ounce a day on an average for all patients. Corn is not a great factor in our dietary.

DR. THOMAS: My experience is similar to that of Dr. Zeller, except that our dinner meal consists almost exclusively of corn bread. Since I have been convinced from reading the literature that corn bread plays an important part in the causation of pellagra, I have eliminated it entirely from the dietary at the Louisiana Hospital for the Insane. I am convinced that the disease is either due to impure corn meal or to an infection of some kind.

DR. I. W. FAISON, Charlotte, N. C.: The patients with pellagra I have seen have had no skin lesions whatever, and I am fully persuaded that we can have and do have cases of pellegra without any skin manifestations, although the patients may have all the other symptoms. The skin lesions, when they appear, are but one manifestation of the disease.

Differential Points in the Skin Lesions of Pellagra. Report of One Case with Removal of Symptoms

DR. ISADORE DYER, New Orleans, argued for a more satisfactory definition of the symptomatology in the skin evidences of pellagra. Five cases were related in detail, no two of which presented exactly the same symptoms and none of them having the erythema considered diagnostic of the disease. Differential points were raised showing resemblances to blastomycetic dermatitis, vesicular eczema and pityriasis rubra pilaris. Among the cases reported one was instanced in which the general symptoms of the disease were in evidence and which were controlled with the hydrobromate of quinin. The writer argued the value of large doses of quinin in cases with pronounced symptoms of the disease, to be followed by a systematic course of this drug in the treatment associated with tonic doses of arsenite of soda and nux vomica.

Psilosis Pigmentosa in Barbados

DR. C. G. MANNING, Bridgtown, Barbados: We have had a disease in Barbados for the last fifteen years which the general run of medical men call pellagra. I am sure that it is not pellagra, and my reasons for saying so are: 1. Pellagra is said to be caused by ergotized corn or some other disease in the food we eat. If that proposition is to stand, we would naturally conclude that in an asylum like the one I am in charge of (400 beds), where the maize and other foods are cooked in the same kitchen and served alike to patients and attendants, this disease would spread alike to attendants and patients. We have never had an attendant have this disease, and we have never seen it in patients of the better class, who take pride in bathing frequently and in keeping themselves clean. 2. The dark discoloration and squamous appearance of the skin do not appear over the face, chest and back, nor is it a true pigmentation in any sense of the term. It is a scurvy crust which appears in ninety-nine cases out of a hundred on the elbows, knees, ankles, hands and feet, but specially on the point of elbows and knuckles; very rarely on the chest, back, etc. 3. It often appears and disappears without leaving a mark, and reappears again at varying distances of time, but it is not a true pigmentation, white like a tattoo mark, and never disappears. The disease has the following characteristics: It is essentially a disease of poverty, hunger and dirt. The patient first complains of disinclination to take his food. Soon he positively refuses solid food or highly seasoned food of any kind. On examining the mouth, tongue and pharynx, the cause is apparent. The tongue will be found stripped of its epithelial covering. At first this is most apparent at the tip and along the edges. It will be found that the mucous membrane of the cheeks look red and irritated. Patients prefer milk, and this is the best nourishment for them because it is the least irritating and most nutritious. Very soon attacks of diarrhea set in and often prove intractable. Scurvy patches of dark color will be found over the points of the elbow, knees and knuckles. These generally are the localities first attacked; later the feet and hands become affected, and if the patient wears slippers or shoes the part of the foot which is covered is never attacked. The patient rapidly loses flesh, and this is followed by intense anemia; the brain, like the other organs of the body, is badly nourished, and cerebral anemia causes the patient to become silly and half-witted, sometimes mouthing and garrulous, and it is on account of these cerebral symptoms that the patients are certified as insane and "dumped" in our asylums to save further trouble on the part of the parochial authorities. Under regular feeding and steady treatment these patients do wonders; the scurvy patches disappear, and as the patients become less anemic the cerebral symptoms clear up and they become perfectly sane and rational. They often go on quite well for years, but there is a tendency for the attacks to recur, but with suitable treatment the symptoms again clear up and the patients appear perfectly well and will put on flesh. If the patient is admitted after the above preliminary symptoms have become chronic and have not been treated the disease pursues its headlong course and defies all the skill and attention that we are capable of affording. The diarrhea becomes intractable and frequent vomiting is a most troublesome symptom; sometimes the ejecta from the stomach contains streaks of blood, sometimes clots are thrown up. The diarrhea is also blood-stained, and in one case I have seen true melana, with dark tarry stools passed before the patient's death. The smell of the evacuation is overpowering, and there is a sickening odor never to be forgotten. The patient wastes to a skeleton, suffers intense pain right through the alimentary canal from the mouth to the anus, and dies simply a skeleton with the skin stretched over it. The patches on ankles, dorsum of feet, etc., if the patient is white, soon have a purple blotched appearance. They are a kind of purpura, they form blebs, break down and the epithelium strips off, and this is why I call the disease psilosis, from bare, "stripped." Gangrene invades the discolored area, and the cutis vera is the next to separate and come away "in strips." The muscles follow suit and even the tendons hang in shreds about the parts that break down so rapidly. The buttocks soon have discolored areas, over the trochanters, sacrum, etc., and after a deep burrowing gangrene sets in over the gluteal muscles horribly offensive sloughs separate bit by bit and the patient sinks exhausted a miserable and pitiable object, and death is a welcome visitor.

When I first took charge of the asylum in this Colony there appeared very little hope of doing anything for these poor sufferers, but as I went on patiently studying the progress of the disease to its ultimate and fatal end, I came to the conclusion that the quality of the food had nothing whatever to do with causing it. I soon began strongly to suspect that it might be caused by an insufficient quantity—all the patients I have seen have been absolute paupers, poverty-stricken and dirty in the last degree—and also by being badly cooked, as this colony is bare of forests and firewood is exceedingly scarce all over the island. I am of the opinion that the disease is due to a fungus and as soon as I discovered that patients began to be attacked with this disease who had been in the asylum, in some cases for thirty years, and who suddenly contracted this disease and died from it, I thought that this fungus was not transmitted in the food, but in the clothing. It occurred to me that I would boil foul linen and clothing used and worn by these patients, and there has been a complete arrest of the spread of the disease to the old residents in the asylum; and, furthermore, there has been a marked amelioration in the symptoms of those admitted with the disease since they have been frequently bathed and supplied with clean and sterilized clothing.

I have found nothing to compare with 1/40 grain bichlorid of mercury, three times a day, and long continued; and milk diet, and nothing else but milk. When they begin to recover, cod-liver-oil emulsion has given good results, but it must be started with small doses and gradually increased, and it is discontinued if it upsets the stomach. From the success attending our efforts I am strongly of the opinion that this disease, if properly handled in the earlier stages, will in course of time become a matter of history.

Pathology of Pellagra

DR. H. F. HARRIS, Atlanta, Ga.: There are few, if any, diseases characterized by perceptible organic lesions the pathologic anatomy of which is so difficult to arrive at as that of pellagra. This is to be accounted for first and foremost by the extreme chronicity of the disease. Up to the present, all recorded postmortem examinations with thorough studies of the tissues have been made without exception on old pellagrous subjects, and we are, therefore, constrained to regard as being typical of this affection those alterations discovered in the terminal stages of the malady. I would have no hesitation, however, in predicting that the future will show that the initial changes are in the central nervous system. A knowledge of the skin lesions in pellagra dates from Casal's observations, which began about the year 1735, although his monograph on the subject was not published until 1762. The tongue undergoes marked changes in pellagra. Similar alterations are found on the gums and on the buccal mucous membrane, and, at certain stages, in many cases in the pharynx. The mucosa of the stomach is often pale, and its walls dilated as a consequence of atrophy of its muscular coat; in some cases its surface is decidedly red in the pyloric region. Anemia or hyperemia is frequent in the jejunum, and ulcers are apt to occur in this situation, and even more often in the ileum. Similar lesions are occasionally found in the large intestines; not uncommonly the walls of the gut are thinned.

The mesenteric glands have been occasionally found hypertrophied. The spleen is usually diminished in size, occasionally hypertrophied. Metastatic foci are sometimes found in this organ. Occasionally the pancreas has been found atrophied. The liver is usually atrophied, though it is sometimes increased in size. In five of my post-mortems the organs weighed only once as much as 1010 grams. The kidneys are usually decreased in size, but are frequently found to be normal. The adrenals are normal. It is curious that tuberculosis is rarely found in the lungs of the pellagrous, but hyperemia, edema and emphysema are occasionally encountered, and pleurisy with effusion is not unknown; all of these changes are evidently in the nature of complications. The bones are often friable. The muscles are usually atrophied, but are sometimes normal. In one instance I encountered a typical "meningomyelitis acuta," such as described by Belmondo. Although the post-mortem was made only a few hours after death, the cord was very soft and on microscopic examination was found to present alterations of a most pronounced kind. The myelin sheaths of the nerve fibers showed marked degenerative changes, and the nerve cells of the gray substance exhibited to a high degree the alteration already described. Corpora amylacea were specially abundant throughout both the gray and white substances. The ganglion cells exhibit changes similar to those found in the central nervous system, though they are not as a rule so marked. From the results of the work of Beitti, it is not improbable that circulatory changes are frequent in the central nervous system in pellagra, as he has shown that in a certain proportion of the cases the retina is anemic, and in about the same percentage the opposite state of hyperemia occurs. It has been asserted by some that the alterations have been found in the peripheral nerves, but this remains without confirmation.

Hematology of Pellagra

DR. C. H. LAVINDER, U. S. Public Health and Marine-Hospital Service, Washington, D. C., reviewed briefly the literature and discussed the white and red cell counts, hemoglobin estimation, differential leucocyte counts, and the bacteriology of the blood. He concluded from the results obtained by others and by himself that there is ordinarily in pellagra a mild anemia of the secondary type, with qualitative changes in the red cells usual in such anemias; that leucocytosis is rare, and in all likelihood this is not a phenomenon of uncomplicated pellagra; that the results obtained in making differential leucocyte counts are too discordant to furnish any conclusions; though a number of workers have reported a relatively large mononuclear increase; that at various times several specific bacteria have been reported as found in the blood; that all of these have been discredited except Tizzoni's *Streptobacillus pellagræ;* that following Tizzoni's technic in several cases he has been unable to isolate his micro-organism; that by ordinary cultural methods and by experimentation on rats, guinea-pigs, rabbits and chickens, he has found the blood invariably sterile and non-pathogenic.

Pellagrous Insanity of the Arabs in Egypt

DR. A. MARIE, Paris, France: Pellagrous insanity is becoming almost unknown in France. It manifests itself there, however, in the form of hereditary insanity, as the recent investigations of Regis have shown. The asylums of Pan and Montpellier are almost the only ones where this affection persists in the statistical tables. Pellagra is only possible where maize is eaten. To be poisoned by the ferments of spoiled corn, it is necessary for this cereal to form part of the prevalent dietary. Such is not the cause in Spain, where this disease persists in certain regions and affects 20 per cent. of the population. In Italy, in spite of the valiant struggle led by Lombroso all his life, the regions of Bergamo, Briscia, Venice and Padua still number from 30 to 50 pellagrins to 1,000 inhabitants. Treviso, Vicenza, Cremonia and Pisa, 10 to 20 per 1,000. At Milan I was able several months ago to examine a number of insane patients of this kind. The total number of pellagrins in all Italy is estimated at 72,000. In the orient pellagra rages in Roumania, Servia, Bosnia, Macedonia, Albania and in the Turkish territory, as well as in Greece. In Egypt, pellagra reigns as in other Turkish countries where corn is largely used. There one may say that almost all the fellaheen are in some degree touched by the pellagrous poison. At the hospital of Kasr-et-Nil, at Cairo, in ten years more than 1,000 pellagrins have been treated. Each year, of this number of cases, forty are complicated with insanity, and the patients are consequently committed to the asylum of Abassia, where I was able to study them.

Outside of the hospitals, the study of pellagra in the country population has been undertaken by Dr. Sandwith. He thinks that on a general average more than 36 per cent. of the Egyptian peasantry are affected. In districts the least poverty-stricken, the proportion may fall to 15 per cent., but elsewhere it rises above 62 per cent. In lower Egypt the average would be highest even with young women. The considerable stillbirth rate would not exist but for this plague. In upper Egypt the greater dryness and the use of millet as food lessen the danger, and probably also the countries remote from the seacoast use less imported maize, which is more dangerous because of the defects of transportation. The number of pellagrous insane, as it appears, is continually increasing, and only those, however, who clearly bear the physical stigma are enumerated, but the hereditary pellagrins do not always present these stigmata thus clearly. The erythema varies in appearance according to the season; although its topography remains the same. From racial characteristics it acquires certain relative pigmentary peculiarities. It is thus that old cicatrices, instead of contrasting by a darker color as with the white race, manifest themselves on the contrary by a gray tint clearer in the men of color in consequence of a squamous thickening of a thick and dry epidermis.

The mental state of the patients is generally characterized by an initial phase of irritable weakness, by an apathy with physical and mental depression and diverse phobias. Sitophobia is frequent and coincides with the gastrointestinal troubles, gastralgia, cramps, nausea, alternating constipation and diarrhea, etc. A certain number of insane paralytics coincide with pellagra and confirm the opinion of Baillarger that the final paralytic phase of pellagra can represent an identical state clinically and pathologically with general paralysis of the insane. These cases do not invalidate at all the other form of general paralysis from which they are distinct, and which I have described as being in relation to syphilis. The two forms can, however, be combined: that is to say, one may observe among the Arabs general paralytics who are at once both syphilitic and pellagrous.

Pellagra in Egypt

DR. JOHN WARNOCK, Medical Director, Government Hospital for the Insane, Abbassia, Cairo, Egypt: Pellagra is very common among children in Egypt; apparently this is not the experience in America. I have seen scores of children from 10 to 15, dwarfed, cachectic, anemic, and displaying splendid black pellagrous rashes, and usually insane. The mental symptoms are modified by the age, and the children are mischievous and restless besides being depressed and deluded. Some of them look like little mummies. I think men suffer more frequently from pellagra than women in Egypt, but this is only an opinion; I have no figures to back it. In this asylum no corn is used in any form; all flour is carefully analyzed and the diet is kept absolutely free from maize. Yet pellagrous patients resident here for years and thus abstaining from maize for long periods again develop pellagrous rashes here with acute physical symptoms, sometimes resulting in death. It is noteworthy that the rash and the diarrhea occur simultaneously; the rash is, therefore, not a causal symptom produced by the exposure of a pellagrous person to the sun's rays, but a sign of a general degenerative process affecting the whole organism. Nearly all cases of acute typhopellagra have a very black indurated rash, and there seems to be a correspondence between the darkness of the rash and the acuteness of the general symptoms. Nearly every patient with pellagra suffers from bilharzia disease; very many from anchylostoma also, and very many from extreme favus of the scalp. I have always considered that these parasites have fixed themselves on a decaying organism; but there is some-

thing to be said for the possibility that these parasitic diseases account for some of the symptoms of pellagra (anemia, emaciation, etc.). I should like to know whether in America these parasitic diseases are found so frequently (or almost invariably) associated with pellagra?

Gynecologic, Obstetric and Surgical Aspects of Pellagra: A Preliminary Study

DR. E. B. SAUNDERS, Columbia, S. C., detailed twenty-four cases that had come under her observation, and in summarizing said:

To sum up my observations and reading upon the aspects of pellagra embraced in this paper, of the 24 cases reported, 4 patients are still under treatment, 10 recovered, and 10 died. In America and Roumania the female sex is more liable to pellagra, the periods of greatest incidence being the twentieth to fortieth year. Obstetric pregnant women suffering from pellagra are liable to abortion (17 per cent.), to give birth to still-born infants, and at delivery to postpartum hemorrhage. Gestation and lactation, especially when frequent, predispose to pellagra. Parturition is often an exciting cause for the outbreak of the dermatitis. Amenorrhea and leucorrhea occur in 50 per cent. of the cases and dysuria in 57 per cent. Unmarried female pellagrins are more subject to amenorrhea. Multiparous pellagrins are liable to menorrhagia, and present symptoms suggesting cancer. Their subjective symptoms may point to diseases of the pelvic organs and require careful examination for their exclusion. Not uncommon are vulvitis, vulvovaginitis, cervical erosions, endocervicitis and endometritis, ovarian neuralgia and inflammation, maceration and denudation of adjacent skin on the thighs and in perineal and anal regions, especially in "wet" cases. A surgical operation may bring out latent pellagra. Diseases of the kidney are simulated and may be primary or secondary. Stomach symptoms are often so severe as to require attention and rigid diagnostic methods. Care should be exercised to prevent needless surgical or other treatment. Other subjective symptoms may annoy the patient to such an extent as to demand treatment. Pellagrins often complain of symptoms suggestive of hemorrhoids when it is really proctitis, a part of the general inflammation of the intestinal mucosa and adjoining epidermis. In essence, pellagra may be a trophoneurosis, but that in women the pelvic organs are especially subject to the invasion of the unknown poison, is a fact demanding wider recognition as well as further study.

In asylum life we see a few failures among many brilliant surgical successes, but the above surely points to the fact that in the initial stages, especially when the symptoms are not very well marked and when there is much pointing to pellagra as well as to other diseases, a very careful differential diagnosis should be made and care given to other than the pelvic symptoms of these cases. If possible, relieve the primary disorder, pellagra, before resorting to radical operations, which, at best, cannot cure pellagra, and will probably only increase the already lethal tendency. Not much will be lost in waiting for a time, at the expiration of which the symptoms may have been relieved, or the pellagra erythema now so necessary for diagnosis have appeared in full efflorescence. Patients with pellagra, on account of their debilitated condition, are prone to other diseases, and are subject to "incidentals" which require surgical intervention. These demand and should have prompt attention, but after granting all this, I am forced to believe that the majority of such patients should be treated not as having a primary organic pelvic disease, but as suffering from functional or symptomatic disorders, and, furthermore, that the gynecologic, obstetric and surgical aspects of pellagra are factors which not only the general practitioner must consider, but with which specialists of several kinds who live in the pellagra zone must hereafter reckon for the real welfare of their patients.

Pellagra: Its Relation to Insanity and Certain Nervous Diseases

DR. J. W. MOBLEY, Milledgeville, Ga.: In considering a specific factor as the sole cause of pellagra, we are brought face to face with many conditions which speak both for and against the theory that the disease is produced by a specific organism and its toxins. Other specific factors are shown in the protozoan theory, which so closely allies syphilis with pellagra as to make the clinical picture at times quite similar. The peculiar cell observed by Cross of Georgia, with a chlorophyl-like content, is on the side of a specific infection. He describes these cells as about the size of hookworm eggs, either round or oval in shape. He suggests that they may have been altered epithelial cells, but their morphology seems to be unaltered. The specific fungus (aspergillus) which grows on corn will also grow on cheese, and may account for the disease in many instances, in which the history of a corn-free menu is obtained. Syphilis and tuberculosis should be considered in relation to pellagra. The records of the State Hospital for the Insane of Georgia show that 10 per cent. of patients dying of pellagra manifested localized or general tuberculosis.

DR. N. P. WALKER, of the Georgia State Sanitarium, reported that out of 89 cases of pellagra among the insane colored females, only 19 or 21 per cent. were infected with the disease at the time of admission. The remaining seventy exhibited the first known symptoms of pellagra after admission.

DISCUSSION

DR. W. H. DIAL, Laurens, S. C.: Is it absolutely necessary for a patient to have a dermatitis in order to make a diagnosis of pellagra?

DR. J. W. BABCOCK: Students in the London School of Tropical Medicine are taught that they must make a diagnosis of pellagra regardless of dermatitis. In other words, they must diagnose cases of pellagra without waiting for the skin manifestations. Italians emphasize the importance of obstinate diarrhea, marked mental symptoms, and axaggerated knee-jerks. I think it is up to the general practitioner to emphasize for those who only see this condition in the advanced stage the particular symptoms by which an early diagnosis of pellagra can be made, disregarding the skin manifestations altogether.

DR. M. B. YOUNG, South Carolina, mentioned the case of a farmer, who had pellagra without any dermatitis when he first saw him. He had increased knee-jerks, stomatitis, but no diarrhea. He was constipated. In working about the store he would pick up an article and then be unable to put it down, so that it was necessary for some one to take it from his hand. Again he would start to walk in one direction, and then go in the opposite direction. He would attempt to sit in one chair in a room, and immediately get into another. Later, when mental symptoms manifested themselves the dermatitis came on.

DR. B. R. TUCKER, Richmond, Va.: I have the histories of nine cases of pellagra, and in eight excessive crying was noted as a symptom.

Complement Fixation with Lecithin as Antigen in Pellagra; Further Observations

DR. C. C. BASS, New Orleans, referred to his previous publication (THE JOURNAL, Oct. 9, 1909) reporting complement-fixation tests with lecithin as antigen in six cases of pellagra. He reported the result of the test in 10 more cases and tabulated and summarized the 16 cases. Four of the cases, all positive, are ruled out because of syphilis, malaria or autopsy blood; 8 of the remaining 12 gave positive reactions and 4 negative. The 4 negative cases were of the severe type; 7 of the positive cases were mild or chronic cases; 1 was severe. He called attention to the fact that the Wassermann reaction and its modifications with lipoid substance as antigen have been found in protozoan diseases and not in those caused by bacteria. The hemolytic unit used is 0.2 c.c. sheep corpuscles. The amount of patient's serum used per hemolytic unit is 0.1 c.c. The lecithin solution is 0.1 c.c. of a 0.3 per cent. solution in equal parts absolute alcohol and salt solution.

The Wassermann Reaction (Noguchi Modification) in Pellagra

DR. HOWARD FOX, New York City: Thirty cases of pellagra have been tested by the Noguchi modification of the Wassermann reaction. I would have preferred to have performed both the regular Wassermann and Noguchi tests simul-

taneously, but owing to the limited amount of time available, it was only possible to employ the more convenient modification of Noguchi. The cases examined included eight white and twenty colored women, one white man and one colored boy. All the patients were from South Carolina except one, and were inmates of the State Hospital for the Insane. All the cases, with perhaps one exception, have shown unmistakable symptoms of pellagra, though at the time of examination some did not present very active symptoms of the disease. The patients which were chosen for examination were those which apparently showed no evidence of syphilis. To have excluded syphilis from the patients' history would have been difficult or impossible from the nature of the cases. The technic was that described by Noguchi and by myself in previous communications. The materials used included 0.04 c.c. of fresh guinea-pig serum. A weak suspension of human corpuscles (preferably washed) in the proportion of one drop to 4 c.c. of physiologic salt solution, one capillary drop of patient's serum (active) and the antigen and amboceptor in paper form. The tubes were incubated for one-half hour for the first and two hours for the second period, after which the results were read. Two different antigens were used in testing every case. One of these consisted of an extract of syphilitic liver; the other (especially prepared by Dr. Noguchi for the present investigation) was a composite extract of syphilitic liver and normal hearts and kidneys. Both had previously been tested by Dr. Noguchi and found to be entirely satisfactory. In performing the reaction, a known negative serum and one or more known positive serums were always used for comparison. The positive serums included five cases of syphilis and two of leprosy which I had previously tested and found to be strongly positive. The entire series of thirty cases was tested four times. With one exception, no strongly marked positive reactions were obtained. In this case it was later found that a previous syphilitic infection was probable. In two other cases there was a positive reaction of moderate intensity, and in five cases the reaction was only weakly positive. Even in the cases giving a moderate positive reaction the inhibition of hemolysis was far from being complete and was very easy to distinguish from the marked reaction given by the syphilitic and leprous serums. While positive reactions are at times given in apparently non-syphilitic cases, there appears to be only one disease, namely, leprosy, in which a strong positive reaction is a frequent occurrence. In an examination of fifteen cases of leprosy during the past few months in New York I found twelve positive reactions, many of them being very intense; somewhat similar results have previously been obtained by other observers. I feel confident that pellagra will not prove to be a disease in which a positive Wassermann reaction will be frequently found. If such a sensitive test as that of Noguchi (and the objection is sometimes made that it is too sensitive) fails to show many positive reactions, it does not seem probable that they will be obtained by the regular Wassermann method. In conclusion: 1. Cases of pellagra do not often give a positive Wassermann reaction. 2. A positive reaction, when obtained, is generally weak and is easily distinguished from the strong reaction found in syphilis and many cases of leprosy. 3. The value of the Wassermann test is not affected by the findings of pellagra.

Transfusion in Pellagra

DRS. H. P. COLE and G. J. WINTHROP, Mobile, Ala., read a joint paper on this subject in which they reported nine cases of pellagrous patients in which they resorted to transfusion.

It must be noted that the only medicinal agents used in the recovered patients were tonics of strychnin, forced feeding, and in some cases carbonate of iron. In every patient benefited by transfusion the improvement was immediate as shown by a marked gain in weight within the first week, in one instance as much as eight and a half pounds. All the patients, two months after transfusion, are either apparently cured or markedly improved and have gained from five to thirty pounds in weight. Of the fatal cases, one patient was moribund at the time of operation and died three hours after transfusion; one received no appreciable amount of blood on transfusion; another received practically no blood at the first operation and at the second transfusion, when a pellagrous donor was used, while a good flow of blood was received, the condition, we felt, was hopeless. We suggest the following conclusions: 1. Transfusion offers a means of combating the anemia, stimulating the recuperative functions, and perhaps of furnishing antitoxic substances to pellagrins. 2. The lessened mortality and marked improvement in transfused pellagrins leads us to anticipate the establishment of a serum therapy in the disease. 3. Transfusion may be offered as a surgical therapeutic procedure in pellagrous cases pending the perfection of a successful serum therapy.

Etiology of Pellagra

DR. J. H. TAYLOR, Columbia, S. C.: In the case of pellagra there is irresistibly borne in on us some as yet intangible relationship between corn, especially spoiled corn, and the development of the disease. Now, knowing what we do of the quiescent phases of certain protozoa and the stimuli necessary for their renewed activity, is it not possible that, either one cycle of an organism causing pellagra, if there be such, finds its habitat in corn, or else may it not lie in the tissues somewhere, possibly the intestinal tract, and the ingestion of corn, producing the chemical stimulus necessary to its development, there results an invasion of the host with a development of the usual symptoms? It seems to me that this would account for the recrudescences following the eating of corn products, and also we might reasonably stretch the analogy to include those cases developing sporadically of pseudopellagra, accounting for these by the ingestion of some other product than corn, producing a like stimulus, but much more seldom eaten than corn.

DISCUSSION

DR. WILLIAM ALLEN, Charlotte, N. C.: Dr. Taylor in his paper drew an analogy between the treatment of syphilis and pellagra. I have had several patients who gave a past history of syphilis. They were first put on the treatment recommended by Babes last winter, but no improvement was noted. Later, when put on hypodermic injections of the salicylate of mercury, they recovered.

DR. WALTER H. BUHLIG, Chicago, detailed some experiments that were carried on at the Peoria State Hospital for the Insane under the auspices of the Illinois State Board of Health. He found no amebas in the city water of Peoria. He found none in the city water used at the institution, contrasting this with a previous experiment in which he had found them. In the well water no amebas were found, but in the water which came from a refrigerating plant large numbers of amebas were found.

DR. H. J. NICHOLS: The parasitic theory of any disease is very attractive, but I do not think we are safe in following Dr. Taylor's lead on this proposition. We had a similar experience with beriberi, which has been a problem in the tropics for many years. First, the disease was ascribed to rice; then it was thought a protozoon or bacterium was the cause of the disease. Finally, it has come back to rice again. While there is undoubtedly some definite connection with rice, the question has not been solved. We have been through the same phases in that disease as we have in pellagra. It was thought at first and even now that some protozoon or bacterium in the diet plays a causal rôle, but that is purely a psychologic reaction rather than a reaction based on reliable data.

DR. J. J. WATSON, Columbia, S. C.: I have had an extensive experience with pellagra, but there is no drug that cures the disease. Arsenic does not do any good. I have seen patients recover when I have given them morphin. On the other hand, I have seen some of them recover when I did nothing and was out of the way. The argument that such and such a drug, which acts beneficially and curatively in protozoal diseases, does not hold good in pellagra. Ordinary, good corn does not produce pellagra, but damaged corn does so. That is the experience of men who have studied the disease very carefully and closely for generations.

DR. W. H. DIAL: In the last few years the manner of harvesting corn has had something to do with damaged meal. It is the harvesting of corn before it has had time to mature, and

undoubtedly this has something to do with the prevalence of pellagra in the South and elsewhere.

DR. HIRAM BYRD, Jacksonville, Fla.: If there is any one thing that has been impressed upon me at this Conference it is that we do not know the etiology of pellagra, that we are to-day in the dark. This Conference has assumed both a national and international character, and every part of the world is represented here either in person or in sentiment. The proceedings of this Conference will be read with avidity by the entire world. Is it a safe thing, in the present state of our knowledge, for us to put ourselves on record that corn is the cause of pellagra? I contend that it is not. It is better for us to say: "We do not know." This is a scientific question, and we ought not to accept anything short of absolute proof which the most exact science can give. So far as corn as a cause of the disease is concerned, we can say it is unproved.

DR. J. D. JONES, Sweet Water, Ala.: This disease has been under my observation for three years. For a year and a half we did not know what it was, but with the aid of Dr. Searcy we were able to diagnose it. I have had during that time three deaths from this disease. I have now under my care three patients who are insane with this disease, one of them being near the point of death when I left home. Damaged corn may produce the disease, but pure, fully developed corn that is hardened by the rays of the noonday sun will never produce pellagra. People are becoming frantic in various sections of the South over the idea that corn produces pellagra. Such an impression should not be conveyed by this body.

DR. LOUIS LEROY, Memphis: That a relation exists between pellagra and damaged corn there can be no doubt, just as there is a relationship between impure water or impure milk and typhoid fever, but the last word has not been said in regard to the etiology of pellagra. Corn undoubtedly acts as a carrier of infection. I believe we shall have to look to some protozoon or micro-organism as the cause of the disease. It is my belief that some day we shall discover a living cause; but let us not go on record as saying that it is corn, and only corn, that produces the disease, but let us say, it is corn and something in the corn that cause the disease.

Pellagra at Nashville, Tenn.

DR. J. M. KING, Nashville, Tenn., contributed a paper on this subject, which was read by Dr. Louis Leroy, Memphis, in the absence of the author. There were two groups of patients, one occurring in the Baptist Orphanage, consisting of seventeen cases, the other consisting of two cases, which were found in the country fourteen miles from the city, and one single case. Each case was reported in detail. In commenting on the two groups reported, the first consideration is: Has there been any transmission of the disease from one case to another through food or any other way? Is the disease infectious? There seems to be absolutely no doubt as to the diagnosis of these cases. In the orphanage the disease was first introduced by a family of children from destitute parents; later, up to 1909, other cases developed in the same institution, and in children from all sections of the state. It does not appear that the children outside of this immediate family of four entered the institution with the disease. Every proof shows that they contracted it there. Every proof shows that the disease was introduced by the youngest member of this family of four, the other three members being also affected later, with the intensity of the disease less in the older children. The food at the orphanage was wholesome, well prepared and well served. The inmates showed all evidence of being well fed. Their food, in fact, was equal to that of the average home. The corn meal from which their corn bread was made was procured from one of the most reliable millers in the city of Nashville, and all the children ate the same quality of bread. The same grade of corn meal is used by the Central Tennessee Insane Asylum. A most careful inspection was made of that institution by Dr. Lavinder, Dr. Tucker, Dr. West, and myself, and not a single case of pellagra was found even among the colored female inmates. In one group it appears as if there was a direct transmission of the disease to the woman from washing the clothes of one patient. The man had a well-marked case of pellagra. The woman did his washing during the winter and in the spring developed the disease. There seems to be no other way by which she could contract it. He came into the community with the disease. There was nothing in common between the two, as far as we could learn, except this washing. On the face of the report of these two groups, this disease has every appearance among us of being infectious, or in some unknown way communicable.

DISCUSSION

DR. C. H. LAVINDER: I visited Nashville and saw the cases there, and while I admit there is some reason for the conclusion drawn by Dr. King and others that pellagra is transmissible, yet I do not think we should come to a general conclusion that it is infectious or transmissible from one or two cases. Therefore, in a friendly way, I wish to offer my protest against such a conclusion.

DR. W. E. HIBBETT, Nashville: I wish to emphasize some of the facts in connection with this paper. We have three state institutions and one county institution, besides the Baptist Hospital, in the immediate vicinity of Nashville, the inmates of which all receive the same food. In all the other institutions, except the Baptist Orphanage, the number of inmates is relatively large. In the Baptist Orphanage there are only about 75. The disease was brought in, as the paper states, by a child from Newport, four members of the family having the disease, one case developing after another until we had seventeen cases in that institution. After a most careful study, with the exception of the other group alluded to, no other case was found in the vicinity of Nashville, or in any of the institutions. While we have not gone on record as stating that the disease is transmissible, yet with these facts before us, what else can we think than that the disease is communicable from one person to another? We are not trying to establish the infectious nature of pellagra, but we are here to learn and are open to conviction. We have been criticized for what was supposed to be the quarantining of these cases. We do not quarantine them, but have carried out what we term advisory isolation, made necessary because of the peculiar surroundings of the cases in the Baptist Orphanage.

DR. LOUIS LEROY: So far as amebas and uncinariæ are concerned, in none of our cases in Tennessee have amebas or hookworms been present. Amebas, however, are prevalent in the neighborhood of Memphis. We have an area there in which amebiasis is endemic; still I have never seen a case of amebiasis give evidence of pellagra, nor have amebas been found in any of our pellagrous patients, although they have been sought for diligently in each case.

Facts and Theories of Pellagra

DR. H. E. MCCONNELL, Chester, S. C.: My paper is based on twenty-four cases, dating back to 1903. In each case there has been a definite history of corn products of questionable character having been used, and this puts me in the class with those still holding to the maize theory as to the causation of the disease. It seems strange that after the lapse of centuries a disease due to damaged corn should come back to us from the old world when the seed was first obtained in America. I believe this fact due entirely to the changed methods of cultivating and harvesting corn, whereby unmatured corn is placed in the most favorable condition for fermentation and fungus growth. From the similarity of the disease in all cases, I am led to believe that it is due to a fungus or bacillus with their toxins associated with spoiled corn. Its port of entry is through the stomach and intestines, and when once engrafted it is hard to dislodge. All my patients had in the beginning a stomatitis, salivation, burning in the stomach and diarrhea, more marked in some than in others. The slowly developing cases usually present symptoms twelve months before the rash appears, the acute cases after a few weeks. By this rash we make the diagnosis of pellagra. The blood shows no specific organism. I believe, further, that this fungus is unaffected by heat, or, which is more probable, enters the stomach with poorly cooked food. Apparently cured patients seem to relapse easily after corn products are used, even though they be of the best quality. While the stomach and intestines are the primary foci, I think most of the symptoms are produced by the action of the toxins on the nervous system. Of the fourteen cases seen this

year, the proportion of males has increased to the same as that of females, seven of each. Of these, two females (white) and one colored (male) have died. Of the twenty-four cases, four only were negroes. Three of these I prescribed for during the summer of 1908 as suspected cases of pellagra, only to have my suspicion verified the following spring. The rash is not so distinct or so easily recognized in the colored as in the whites. From these cases, it would seem that no age or sex or race is exempt. The course of the disease has varied from three years to a few weeks. In regard to treatment, atoxyl was given widely this year, but not hypodermically, as these patients were not directly under an attendant capable of giving these injections. The results have not been superior to Fowler's solution and hydrogen peroxid. The leucodescent light had the most beneficial effect on the erythema of any remedy tried.

Symptoms of Pellagra

DR. J. J. WATSON, Columbia, S. C.: The malady is so insidious in its onset that it is difficult to state what are the earliest premonitory symptoms. The first thing usually complained of by the patients is some gastrointestinal disorder. This may be loss of appetite, burning sensation in the epigastrium, excessive desire for food or drink, or more often diarrhea with more or less stomatitis and salivation. Soon after these digestive disorders manifest themselves, or coincident with them, the patient detects a disinclination to any exertion. Duties that were formerly dispatched with a feeling of pleasure are now looked on as a dread; and procrastination takes the place of promptness; so that the personal appearance of the victim, or the aspect of the home and children, if the sufferer is a woman, indicates neglect, all of which is evidence of the psychic depression that forms later a prominent figure in the clinical picture of the disease.

Skin Symptoms.—After these symptoms have persisted with unusually increasing severity, in some cases for weeks, in others for months, the characteristic symptom of the disease appears, namely, erythema on the hands and arms not covered by the clothing. The skin eruption may be either dry or wet. In the dry form it appears usually in the early spring months, and while it is one of the most characteristic features of the disease, it is *per se*, one of the most insignificant, as very few patients suffer any physical discomfort from it. They complain principally of the unsightliness. The eruption begins as an erythema on the backs of the hands and extensor surfaces of forearms, extending up the arms to the point that the sleeves reach, and ends abruptly there, being absolutely symmetrical if the sleeves are symmetrical, which is usually the case. In persons who do not hold their hands the eruption extends to the flexor surface in a characteristic shape; beginning on the radial border it extends toward the ulnar by an oblique line forming a patch of erythema on the flexor surface, somewhat triangular in shape, the base of the triangle being the radius and the apex near the ulno-carpal articulation. Patients who are well advanced in the disease and unable to work, and who sit about and hold their hands have the eruption on the flexor surface, to the same extent as on the extensor surface. The erythema lasts for a few days and then begins to fade and the skin to desquamate in fine scales if the dermatitis has been mild. As the redness fades the site of the erythema assumes a somewhat cyanotic hue. This is gradually replaced by a characteristic light liver or chocolate color, which, if once seen, cannot be mistaken or confounded with any other skin disease. In negroes it is readily recognized by an increase of pigmentation, the site of the eruption appearing as though soot had been smeared on that part of the hand and arm. The patients often make vain attempts to remove the dirty appearance of the hands with soap and water. After a time the eruption scales off and leaves the hands soft, velvety and glistening, quite a contrast to the dirty hands that they were the sorrowful possessors of only a few weeks before, but the erythema reappears and the eruption follows the same course as previously described. This may happen several times during the summer. As a result of these repeated inflammations the hands become hard and wrinkled and frequently deep fissures occur on the fingers, notably the index finger, at or near the first joint. Portions of the body covered by the clothing subjected to pressure also show the eruption in some cases. The skin over the olecranon, trochanter, sacrum and knees is especially liable to become affected. The forehead, face and neck are often the seats of the eruption. In those who go barefooted the feet and legs do not escape. The eruption commences in the spring months and persists until July, August and September, and then disappears to make its appearance in the following spring. In some cases there is a mild relapse in October. The crowning characteristics of the pellagra eruption are the symmetry and color. After the pigmentation has been exfoliated there usually remains a fringe of dirty appearing epithelium, a relic of the line of demarcation of the dermatitis. In some cases the sebaceous glands on and around the nose are hyperactive, there being a seborrhea. The wet form differs only in degree. When the dermatitis is severe, bullæ form, sometimes containing serous, serosanguineous or seropurulent fluid, and when the bullæ break large ulcers are left to mark their site, or large flakes of skin desquamate, leaving a raw surface. Slight cicatrices remain as evidences of former ulcerations. The whole clinical picture is analogous to a burn of the first degree. The wet form involves a greater area than the dry, such as the axillæ, groins, etc. This form has been frequently diagnosed as dermatitis exfoliata.

Digestive Disorders.—The buccal mucosa becomes very red, the tongue and mucosa of the lips showing particularly this characteristic symptom. If the throat is examined, this redness will be observed as far as one can see into the pharynx. Flakes of exfoliated epithelium will be seen adhering to the gums, and the tongue being denuded of its epithelium, is smooth and glistening. Now its color is cardinal red, and it is a cardinal symptom of the disease, so that I have denominated it the "cardinal tongue." Sandwith calls it the "bald tongue." This stomatitis is accompanied by a profuse flow of thick saliva, in some cases so profuse that the saliva dribbles out of the corners of the patient's mouth. Intelligent patients suspect they have been salivated by mercury. When the mouth is open, strings of saliva will extend from the upper to the lower teeth. My attention was directed by Dr. Babcock over a year ago to small black or bluish-black spots on the tongue, and since then I have observed these papillæ in a number of cases, all negroes. The name of "stipple tongue" has been given this condition by Dr. Lavinder. The tongue may be either pointed or large, flabby, swollen and indented. The salivary glands may be swollen and tender. This with the salivation and conditions of the swollen gums has been mistaken for mercurial salivation, but in mercurial salivation there is always a disagreeable odor to the breath, and while there is an odor to the salivation in pellagra, it is not the same disgusting fetid odor that is characteristic of mercurial ptyalization. The acme of the stomatitis corresponds to the acme of the eruption on the hands. Other mucous membranes are inflamed. Proctoscopic examination reveals a bright red mucous membrane as far up the gut as can be seen. Hemorrhoids are frequently complained of. One of my patients complaining thus showed on examination only an intense redness of the mucosa, still she insisted that she suffered acutely from piles. This patient was in a state of mild delirium, and possibly there was some irritation that caused her to refer to trouble in that locality. She was far advanced in the disease, and this was the only symptom of which she complained. It is unusual for patients to complain of discomfort in this locality. The mucosa of the vagina is also the seat of inflammation, and vulvovaginitis is not at all infrequent.

A burning sensation in the esophagus and stomach is frequently present. Pyrosis is sometimes a prominent feature, with or without belching. "Pyrosis is never absent" (Lombroso). Vomiting occasionally occurs, but it is not a constant feature of the disease. When the disease is advanced dysphagia is complained of by some patients, and this may be accompanied by strangling when fluids are taken. Marked gastric symptoms are present in some cases. I have known a case of pellagra diagnosed as gastric cancer.

Diarrhea is a feature of the disease at some time in its course. It varies from a few soft stools a day to twenty or more, and they are frequently involuntary when the patients

are bedridden. In a number of cases I have noticed that the stools are as frequent at night as in the day. The diarrhea is obstinate and not affected by the ordinary treatment of diet. I have seen it persist in spite of large doses of bismuth and opium and a rigid diet, and improved when drugs were discontinued and diet not restricted. It is not dependent on errors in diet, but is a neuropathic manifestation due to disease of the spinal cord and involving the sympathetic system. The fact that the normal reflex in the intestines is greatly increased by disturbance of the sympathetic nerves may explain the diarrhea, since it produces hyperperistalsis in the same manner that irritants applied to the skin produce an exaggerated vasomotor dilatation with the erythema as a result. In rare cases there may be constipation. These cases are mild and show slight mental depression or none at all. In the terminal stage, when rise of temperature sets in, the diarrhea frequently stops. Meteorism is present with the diarrhea, and sometimes persists after the bowels have lost their frequent action. The diarrhea follows the same course as the erythema and stomatitis, namely, it has exacerbations and remissions and persists through the spring and summer months, with a slight recrudescence in October, then disappears during winter to reappear the following spring.

Eye Symptoms.—Pupillary abnormalities are striking in some localities and in some seasons, varying from year to year. In 1908, in South Carolina, pupillary dilatation was the rule, the mydriasis being extreme in some cases. It may be either bilateral or unilateral. If unilateral, the right pupil is most apt to be dilated. During 1909, I have seen few patients with dilated pupils. Contraction of the pupils is sometimes met with. The pupils react sluggishly to both light and accommodation, and resist the action of homatropin considerably longer than the normal. Diplopia and photophobia are not usual. These pupillary phenomena must be due to a disturbance in the cilio-spinal center.

Pain in the back was a striking feature in some of the Italian patients whom I saw. The pain was so severe that the sufferers walked stooped over. I have had only one patient complain of pain in the back among the number studied in America. Pains in various portions of the body are often complained of. Tenderness at some point along the spinal column is almost constant. It is usually in the mid-dorsal region and is easily elicited by pressure with the fingers along the spine. The tenderness varies on the two sides, in some cases being more acute on the right. The tenderness is not over the spinous processes, but over the point where the nerves emerge from the canal.

The mild cases are practically afebrile, namely, temperature less than 100 F. The morning temperature is often subnormal, 96 and 97.5 F. A temperature of from 102 to 108 F. or over is not unusual in cases progressing to a fatal termination. The pulse is increased to from 80 to 100 in ordinary cases, but increases with the toxemia or temperature, and counts of 160 are not unusual in fatal cases. There is nothing characteristic about the urine, except that alkaline urine is a bad prognostic sign (Lombroso). The reflexes are usually exaggerated, although they may be normal, diminished or lost. Like other signs, they vary with the locality and season. The patellar tendon reflex is especially more lively, the slightest touch eliciting a lively jerk. The knee-jerk varies on the two sides, in some cases being more lively on the right, the side that has the most exquisite spinal tenderness. In severe cases, or rather in those in which there are tetanic contractions, ankle clonus may be found. In paretic patients the reflexes are abolished. There is usually analgesia or anesthesia at the site of the eruption.

Vertigo is complained of by nearly all the sufferers, and should always be asked about, if not mentioned by them. Its presence should excite suspicion and other pellagrous stigmata sought for. Mental depression is as constant as the erythema and diarrhea and varies from a mild case of the blues to severe melancholia. Hallucinations and delusions are sure to occur at some time in the disease, and no two patients will have the same delusions. In Italy 10 per cent. become insane. As yet, we cannot form any opinion as to what proportion of our patients will become insane, but if records of cases are kept it will be a very easy matter to ascertain what proportion is demented. While pellagrins are never talkative, at times they complain of real or imaginary ills. As the disease advances they talk less, often not answering questions, and finally pass into a state of absolute mutism. This portion of the pellagrous syndrome is important and properly calls for separate consideration. The gait is either simple paralytic or paralytic spastic. The patients walk with their legs far apart, and as paresis sets in the stride is very much decreased, and the patient assumes a peculiar shuffling gait.

DISCUSSION

DR. C. L. MINOR, Asheville, N. C.: In considering the symptoms, Dr. Watson failed to mention one which I regard as of the greatest importance, namely, the peculiar slimy green stool, with a sickly, disagreeable odor.

DR. J. J. WATSON: In the South Carolina State Hospital for the Insane it has been observed that the nurses can make a diagnosis of pellagra, before the skin eruption appears, by the offensive odor and characteristic appearance of the stools.

Amebas in the Stools of Pellagrins

DR. W. ALLEN, Charlotte, N. C.: 1. Pellagra is often complicated by amebiasis. 2. Many varieties of amebas may be found in the stools of pellagrins. 3. Pellagra is liable to be mistaken for amebiasis, and *vice versa*. 4. In diagnosing and treatment of pellagra, in the absence of pathognomonic skin lesions or mental symptoms, it is first necessary to exclude amebiasis.

Results of Stomach Analyses in Pellagra

DR. W. O. NESBIT, Charlotte, N. C.: In this paper I report the results of the analyses of the stomach contents of 10 cases of pellagra. Four showed a marked diminution in the acid factors of the gastric juice in the late stage of the disease. Five showed an excess of mucus during the pellagrous periods. Six showed normal motility, while in 3 the motility test was not made. Four showed the presence of bile during severe vomiting periods. While this series of cases is too small to draw definite conclusions, the indications are that in pellagra, as in all adynamic and sthenic diseases, the hydrochloric acid and ferments of gastric juice are progressively diminished.

Personal Observations on Pellagra

DR. T. L. W. BAILEY, Clinton, S. C.: I summarize my observations of this disease from a study of the cases that have come under my care as follows: 1. The acute uncontrollable diarrhea and its persistence. 2. Salivation with stomatitis, involving the esophagus; the characteristic slick red tongue that does not coat. 3. One case of vaginitis and inflamed anus. 4. A peculiar eruption on back of hands, sides of neck, both cheeks and sometimes tip of nose. 5. A feverless disease. 6. The hyperesthetic knee-jerk occurring primarily in all cases which should always be examined. 7. Insomnia, hallucinations and acute insanity. One of my cases developed locomotor ataxia and insanity.

DR. REA PARKER, State Hospital, Williamsburg, Va., reported his clinical observations on 4 cases of pellagra, and called attention to one symptom not noticed by others, namely: On the evening of the thirty-eighth day the patient, a male, had a mild convulsion, the pupils becoming irregular, dilating and contracting alternately without any external stimuli, one pupil reacting independently of the other.

Is Pellagra Communicable or Hereditary?

DR. H. H. GRIFFIN, Columbia: 1. The conclusion that pellagra is not communicable is based on the authority of men of great minds who have spent a lifetime in the study of this disease. This seems to be the universal conclusion of those who, by virtue of a large experience, are in a position to speak, and from the 100 or more cases that have come under the observation of the staff of this hospital. 2. Pellagra is probably hereditary, that is, in the form of a predisposition or a mild tendency, such a tendency as we now believe to be inherited in tuberculosis or even in insanity. The hereditary pellagrin is especially vulnerable, not only to pellagra, but to physical and mental degeneration, including insanity.

DR. CROWN TORRENCE, Union, S. C., detailed a case of labor in a pellagrin, with the subsequent history of the mother and child.

Prognosis of Pellagra

DR. JAMES H. RANDOLPH, and DR. RALPH N. GREENE, the Florida Hospital for Indigent Insane: The disease does not seem to be confined to any one section or locality in the state, our cases having been received from fourteen different counties, scattered irregularly through Florida from one extreme to the other. As to social scale, the five white women patients represented as many different walks of life, from a pauper epileptic idiot to a highly educated elderly woman of refinement, now in the stage of terminal dementia, and includes a farmer's wife, a mechanic's wife and a prostitute. Among the colored women the patients were recruited from the turpentine camps of the state, where there is a noticeable absence of general or personal hygiene, and one had been employed in packing leaf tobacco, but inquiry revealed the fact that she had long been a simple-minded dissipated individual, addicted to the use of snuff and "nigger" gin. The ages of the patients that have come under our observation range from that of a child of 13 years old to that of an aged woman; also one negro man, over 80 years of age, the majority being around 40. Of 5 cases embodied in a former report from this hospital, there was a complete subsidence of symptoms in the case of a white man, which has continued to the present time, and has been interrupted only once for a short period, when a return to general diet, including daily ration of corn bread, was accompanied by slight erythema and slight gastro-intestinal symptoms. Of the 13 more recent cases, 11 of which were among women, there has been complete subsidence of symptoms in 2, 1 of whom has returned home, and 2 more still under treatment show great improvement at the present time, with prospects reasonably good for recovery. All those who died gave undisputed evidence of serious complicating conditions, such as senile debility, tuberculosis and syphilis, and this applies with equal force to the new cases seen among the men, both of whom have died. An analysis of these figures gives a ratio of recovery of about 1 in every 4 or 5 cases.

Pellagra in the East Mississippi Insane Hospital

DR. J. M. BUCHANAN, Meridian, Miss., presented short histories of the cases of pellagra in this institution:

These cases establish the fact that pellagra has existed in Mississippi for several years unrecognized, for they give histories of from two to ten years' duration. However, I do not think pellagra cases occurred in bunches prior to 1906. The first known case in Mississippi was observed at the Insane Hospital in November, 1907, although it was not recognized as pellagra until after the appearance of Dr. Babcock's report, which was several months after the death of the patient. In April, 1908, Dr. W. R. Card made a report of 2 cases before the Mississippi State Medical Association, but that report did not command a passing notice. Since then seven other patients have been received. No case has developed in the hospital. I have no data as to the number of cases in Mississippi, but as many reports have been made from various sections, I feel safe in saying the number has passed the 100 mark. I believe in the corn theory and try to attribute the cause to imported western meal, but three of my patients came from interior counties, and the people state that all the meal used was from home-grown corn ground at nearby mills. I have known pellagrins to be made worse by eating good corn bread, and there may be something in the bread itself that causes the trouble, and it may not be altogether due to a supposed toxin. Careful inquiry fails to find a local cause. All the patients were country people, fairly well to do, living in open houses, and using good spring or well water. In some cases skin lesions were the first symptoms noted. In others, general bad health and diarrhea were first noted; the skin lesions appeared later. Treatment was practically the same for all, and consisted of tonics and special diet. Atoxyl was given by deep injections, beginning with 1 grain and increasing up to 4 or 6 grains a day. For the bowel trouble betanaphthol, in combination with astringents, gave the best results. The mental manifestations were of the manic-depressive type, and were variable. In 3 cases there was known hereditary taint. Of the nine patients, one made a good recovery, both mentally and physically. Two recovered from somatic troubles, with little improvement of mind. Three died, and three are still under observation, with no improvement.

DISCUSSION

DR. SARA A. CASTLE, Meridian, Miss.: Of the many patients with pellagra whom I have treated since it was first recognized in Meridian, six were socially prominent in the city, and five of these died. This is not necessarily a disease confined to the poor, according to a prevailing popular impression. All my patients were eaters of corn bread and grits. Several of my hookworm patients subsequently developed pellagra and died.

Other Papers Read

The following papers were also read: "Pellagra in Yucatan," by Dr. G. F. Gaumer, Yucatan, Mexico; "Pellagra in Jamaica," by Dr. D. J. Williams, Jamaica, W. I.; "Personal Experience with Damaged Corn," by Mr. J. S. Whaley, Edisto Island, S. C.; "A Theory as to the Cause of Pellagra," by Dr. C. S. Pixley, Winnsboro, S. C.; "Report of a Case of Pellagra Universalis," by Dr. J. R. Miller, Rock Hill, S. C.; "Report of a Sporadic Case of Pellagra," by Dr. John Lunney, Darlington, S. C.; "Report of Six Cases of Pellagra," by Dr. Theodore Maddox, Union, S. C.; "Pellagra in Children," by Dr. M. B. Young, Rock Hill, S. C.; "Infants of Pellagrous Parents," by Dr. D. S. Pope, Columbia, S. C.; "Diseases of the Eye in Pellagra," by Dr. A. B. Clarke, Plantersville, S. C.; and "Eye Symptoms of Pellagra," by Dr. E. M. Whaley, Columbia, S. C.

Resolutions Passed

The Committee on Resolutions, composed of Dr. J. H. Way, Waynesville, N. C.; Dr. Charles L. Minor, Asheville; Dr. J. T. McAnally, Illinois, and Dr. C. C. Bass, Louisiana, presented the following:

1. *Resolved:* That we appreciate most highly the splendid work performed by Dr. C. F. Williams, the efficient secretary of the South Carolina State Board of Health, in organizing and successfully promoting this conference for the study of pellagra.
2. *Resolved:* That we tender our sincere thanks to Dr. J. W. Babcock, whom we justly recognize as the father of the movement for the study and control of pellagra in America, for his valuable labors and his many courtesies to this body during our session.
3. *Resolved:* That the purposes for which this conference was called can best be furthered by its formal organization into a permanent association of national scope, and that the committee on permanent organization be instructed to report at this session.
4. *Resolved:* That this conference recognizes the widespread existence of pellagra in the United States and urges on the national government the necessity of bringing its powerful resources to bear on the vital question of its cause, prevention and control.
5. *Resolved:* That while sound corn is in no way connected with pellagra, evidences of the relation between the use of spoiled corn and the prevalence of pellagra seem so apparent that we advise continued and systematic study of the subject, and, in the meantime, we commend to corn growers the great importance of fully maturing corn on the stalk before cutting same.
6. *Resolved:* That the work of this conference be brought to the attention of the various state and territorial boards of health, and that they severally be urged to specially investigate the disease, particularly as regards its prevalence, and that they also see that the proper inspection of corn products sold in the various states be had.
7. *Resolved:* That the secretary be instructed to convey to the family of the late Cesare Lombroso, our sympathy in their loss and our appreciatiton of his great work in the study of pellagra.
8. *Resolved:* That all papers and discussions of this conference be referred to the Committee on Publication with full power to publish the same as they deem fit.

On motion of Dr. J. Howell Way, seconded by Dr. I. M. Taylor, the resolutions were adopted unanimously by rising vote.

Permanent Organization Founded

The Conference perfected a permanent organization, which is to be known hereafter as "The National Association for the Study of Pellagra." The membership is to be composed of medical and scientific workers who are interested in the prevention, study and control of this disease.

Officers Elected

The following officers were elected: President, Dr. J. W. Babcock, Columbia, S. C.; first vice-president, Dr. W. A. White, Washington, D. C.; second vice-president, Dr. C. F. Williams, Columbia, S. C.; secretary-treasurer, Dr. George A. Zeller, Peoria, Ill. Peoria, Ill., was selected as the place for holding the next meeting; time, June, 1910.

DELAWARE STATE MEDICAL SOCIETY

One Hundred and Twentieth Annual Meeting, Held at Dover, Oct. 12, 1909

The President, DR. HENRY J. STUBBS, Wilmington, in the Chair

The address of welcome was delivered by Dr. P. S. Downs, Dover.

The officers elected were given in THE JOURNAL, Oct. 23, 1909, p. 1406.

President's Address: Review of Progress, Particularly in Surgery and Gynecology

DR. HENRY J. STUBBS, Wilmington, called attention to the fact that no particular achievements had been accomplished during the past year, but that there had been a steady onward progression.

Reports of County Societies

The report of the Kent County Medical Society was presented by the secretary, Dr. P. S. Downs, Dover, who outlined in detail the work that had been carried on by the society during the past year. He stated that the subject of preventive medicine had received a great deal of attention. He believed that relief from tuberculosis was largely dependent on the education of the public and hygienic measures and the securing of the cooperation of the public, as a means of which he suggested the value of the publication of medical articles in the law press, the publication being supervised by a proper committee of the state or county society.

The report of the New Castle County Medical Society was presented by Dr. Harold Springer, Wilmington, who stated that during the past year papers had been read before the society by prominent specialists, on insanity, carcinoma, epilepsy and other subjects, and that the average attendance at the meetings had been twenty-nine, as compared with twenty-two in the previous year.

The General Principles Underlying Modern Therapeutics

DR. A. ROBIN, Wilmington, referred at length to the efforts made by Nature to repair the various organs after injury, and referred to a case of a Russian who suffered from severe injury to the intestines, in which several hours elapsed between the injury and treatment, during which time the patient was subject not only to infection from the feces which were escaping, but also from foreign substances, yet the man made a good recovery. Dr. Robin contrasted this case with that of the late President McKinley, whose wound resulted fatally, although immediately given the best of surgical attention; and urged that the therapeutic measures in these cases be such as will assist Nature in her efforts.

Medical Ethics

DR. G. FRANK CAMPBELL, Selbyville, cited in full the Principles of Ethics as laid down by the American Medical Association, and condemned advertising, whether by direct notice of the press, or any other manner, which directly or indirectly might be used to bring the practitioner and his skill before the public, with a view to increasing his practice and pecuniary return. He emphasized particularly the need of a closer observation of ethical rules when asked to attend an individual whom the physician knows to be the patient of another doctor, and also the fact that a consultant should not give an opinion except in the presence or with the consent of the attending physician. The need of these rules, he stated, was especially apparent in the country districts.

DISCUSSION

DR. H. W. BRIGGS, Wilmington, felt that there was need for the teaching of more ethics in the medical schools, and urged the importance of laws making the persistent violation of the Principles of Ethics a ground for the revocation of a physician's license.

DR. P. W. TOMLINSON, Wilmington, emphasized the benefit to be derived from writing papers, and reporting cases, both by the writers of the paper and those who hear them, and urged the members, including the practitioners in the country districts, to do more in this direction.

DR. CHARLES A. E. CODMAN, Philadelphia, referred to the importance of organization and frequent meetings of the physicians in the various localities as a means of increasing the standard of medical ethics and the good feeling between physicians. He referred to the establishment of branches of the Philadelphia County Medical Society a few years ago, since which time the membership of that society has increased from 450 to over 1,300. He stated that all the branch meetings were well attended and well participated in by all the members living in the vicinity of the meeting places.

Report of a Simultaneous Case of Intrauterine and Extrauterine Pregnancy

DR. S. G. RUMFORD, Wilmington: In the first pregnancy, the child was entirely free in the abdomen, and at the time of the termination of this pregnancy, there was a normal pregnancy in the uterus of about six weeks. In the abdominal pregnancy the placenta was adherent to the child and there never had been a tubal pregnancy. The child lived but a short time after birth, and the mother also died soon after.

DISCUSSION

DR. JOHN PALMER, Jr., Wilmington, stated that he believed the reason the child died so soon after birth was on account of the pressure which had been exerted upon its head by the abdominal wall of the mother, the whole side of the head being crushed in. He stated that the heart beat was fairly good, and the child gave several good gasps, but soon expired.

The Relation of Chronic Malaria to Acute Catarrhal Conditions of the Nose and Throat

DR. C. J. HARBORDT, Dover, stated that from his observations of persistent catarrhal conditions of the nose and throat he had been led to believe that, in many instances, the trouble was not purely local, and that the malarial germ played some part in the production of the condition. He cited as proof of this fact that in cases in which malaria was supposed to be the causative factor, there occurred, among other symptoms, rise of temperature, catarrhal jaundice, herpes, enlargement of the lymphatic glands, slight albuminuria and nervous symptoms, and the cases frequently yield to the administration of quinin. He also reported several cases in which hemorrhage of the nose had yielded to the use of quinin.

DISCUSSION

DR. E. S. DWIGHT, Smyrna, stated that he had always felt that the throat and nasal conditions were largely due to the dampness of the atmosphere due to the location of the state between the two bays. He stated that there was a great deal of latent malaria present, which promptly became acute when complicated by other illnesses and manifested itself by periodical congestion of the weakened part, every other day, which, of course, in cases of throat disease would manifest itself in the throat.

DR. ALBERT ROBIN, Wilmington, stated that during his connection with the State Laboratory some years ago he had conducted an investigation to find out whether the blood of the people of Delaware contained the plasmodium of malaria, with the result that it was found to be present in only about 2 per cent. of the cases. He believed that many of the cases of supposed malaria were really cases of autointoxication due to drinking surface water. He cited a case, in which a man suffering from pyelitis had been thought to have malaria from his objective symptoms, and also from the fact that the administration of quinin was followed by an apparent cure in the first attack, but in which the blood examination gave a negative report, and a subsequent attack received absolutely no benefit from the use of quinin. He felt that the only way to be sure of the diagnosis of malaria was the finding of the plasmodium in a blood examination.

DR. JAMES H. WILSON, Dover, stated that he believed the reduction in the number of cases of malaria in Delaware was due largely to the better drainage, and remarked that while there is not so much true malaria, as in former years, similar conditions are manifested in malaise, etc., produced by kindred poisons.

DR. P. W. TOMLINSON, Wilmington, stated that in his opinion the cases of true malaria had been largely eliminated from

the state, due to the better drainage. He also inquired whether throat specialists had observed any larger percentage of these throat and nose cases at one season of the year than others, as when malaria was so prevalent there was little of it in midwinter.

DR. LUTHER S. CONWELL, Camden, referred to the mosquito as a means of transmitting malaria, and declared that the decrease in the number of cases was due not only to the better drainage, but also the extermination of the mosquito and the improved screening of dwelling houses.

DR. H. R. BURTON reported the case of a laborer, who had been taken from Boston to Cuba, and two days after his arrival developed tropical malaria. The physicians were at first at a loss to account for the development so soon, but afterward it was learned that shortly before this man left Boston another contractor had arrived at Boston from Cuba with a crew of men, and that tropical malaria had broken out among these men, and as the men were camped close together it was felt that the disease had been carried by a mosquito to the patient in question before he left Boston. Dr. Burton also urged better drainage and the extermination of mosquitoes as a means of eliminating the condition, even, if necessary, the abolition of all water-power mills.

DR. CHARLES A. E. CODMAN, Philadelphia, stated that if it were not practical to abolish the mill ponds the mosquitoes could be eliminated therefrom by stocking the ponds with fish.

Roentgen-Ray Treatment of Carcinoma

DR. W. S. NEWCOMET, Philadelphia, stated that the cause of cancer was still unknown, although irritation entered largely into its production, severe, acute irritation being more likely to produce sarcoma, and continued mild irritation carcinoma. He urged early and complete operation in both conditions, followed by judicious use of the *x*-ray. He exhibited a number of photographs of the various conditions, including carcinoma of the breast, epithelioma of the nose, lupus, cirrhus of the breast and other conditions, and directed attention to the fact that when the deeper structures are involved, the disease is usually more violent and the progress more rapid, as well as being more likely to recur, than when the condition occurs on the skin surfaces.

DISCUSSION

DR. CHARLES A. E. CODMAN, Philadelphia, stated that in the beginning cancer was a symptomless disease, and that it was equally distributed throughout all classes and all races, environment or climate apparently having little, if anything, to do with its production. He laid great stress on the importance of prompt recognition and early radical operation, followed by the use of the *x*-ray for a period of three or four weeks after the operation. He declared that growths in the female breast should be looked on as malignant and treated accordingly, unless there is positive evidence of their benignity, and urged radical operation, followed by the *x*-ray for even suspected conditions, believing that if any error was to be made it was better to be on the safe side. He stated that most cases of cancer of the breast occurred in women between the ages of thirty-five and forty-five years, that, as the age of the patient increases, the frequency of the condition decreases, but its severity, when present, increases.

DR. H. R. BURTON urged the necessity for the local practitioner immediately referring suspected cases to competent surgeons for diagnosis, and, if necessary, operation. He cited a case of cancer of the lip, which he had been called to see, which had previously been treated by a country physician for six months without recognition. He immediately advised operation, which was done, and the man was free from the disease for three or four years, at which time some enlargement of the glands appeared and another operation was immediately performed. This was six years ago, and the man is now well.

Rearing of Children.—The influence of unsuitable surroundings, the lack of fresh air and sunlight, may play a part in the development of rachitis in many cases. The dwellings of the poor, especially in cellars and rear houses, do not admit of a proper environment for children.—F. C. Neff, in the *Kansas City Medical Index-Lancet.*

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Fifty-ninth Annual Session, held in Philadelphia, Sept. 27-30, 1909

(Concluded from page 1591)

Officers of Sections

At the section meetings the following officers were elected:

Section on Surgery—Chairman, Dr. Edward Martin, Philadelphia; secretary, Dr. Otto Gaub, Pittsburg.

Section on Medicine—Chairman, Dr. William B. Stanton, Philadelphia; secretary, Dr. Edward M. Green, Easton.

Section on Eye, Ear, Nose and Throat Diseases—Chairman, Dr. G. Hudson-Makuen, Philadelphia; secretary, Dr. John B. Corser, Scranton.

Dr. W. L. Davis of Scranton and Dr. John J. Coffman of Scotland were elected president and secretary, respectively, of the Society of Secretaries of the Component County Societies.

Traumatic Abscess of the Liver

DR. S. J. WATERWORTH, Clearfield: The object in reading this paper is to place on record a case of traumatic liver abscess, an affection of interest because of its rarity. The differential diagnosis may be quite difficult and the relation of the general and local symptoms to each other and to the history of the patient should be well considered. The trocar should be used, but in all cases in which it is used the surgeon must be prepared to operate immediately more radically. I believe the operation of choice, except in those cases in which the abscess cavity has approached the upper posterior surface of the liver and in which we have practically a subdiphragmatic abscess to deal with, is free incision and drainage by the upper abdominal route and careful walling off with gauze. A patient operated on three months after injury recovered.

Joint Disease Versus Rheumatism

DR. DE FOREST WILLARD, Philadelphia: This article is written in the hope of arousing the profession to the direful results that constantly occur from the careless and unpardonable habit of calling local joint pains "rheumatism," since the failure to diagnose and to examine patients with joint disease frequently results in a crippled condition which persists for life, long suffering and even death. More than 95 per cent. of joint diseases pass on to these most serious consequences as the result of this careless lack of diagnosing and of subsequent treatment. The pain of tuberculous joint infection at the beginning is usually worse after exercise, and is not accompanied by any local evidences of inflammation. The onset of tuberculous joint disease is usually slow and insidious. The principal diagnostic point will be rigidity. This muscular tension shows that the brain of the patient is already cognizant of the approaching danger, even before a positive pain is recognized as an entity. In tuberculosis the ordinary symptoms of acute inflammation are absent. In disease of the joints in the lower extremity limping is progressive and deformity in the direction of flexion of the joint speedily follows, as flexors are ordinarily stronger than the extensors. Sarcoma of the bone is also frequently maltreated as rheumatism. The vague term "rheumatism" is a will-o-the-wisp that has been blindly followed for centuries to conceal ignorance, carelessness or stupidity, and the same is true of the much abused term "growing pains." Every patient with persistent limp and pain (aside from acute trauma) should be examined naked and with the utmost care for the symptoms. Should the case prove in any instance to be one of rheumatism or trauma rather than tuberculosis no possible harm can result from the treatment by rest, fixation and general hygienic measures. Doubtful cases will never be injured by thorough treatment, while many tuberculous infections may be aborted.

DISCUSSION

DR. STEWART L. MCCURDY, Pittsburg: I agree with Dr. Willard on the question of rheumatism. This is a condition that the bone surgeon meets frequently. I would like to emphasize the statement made that local joint pain is seldom, if ever, we might say is never, rheumatism.

DR. EDWARD MARTIN, Philadelphia: Rheumatism occupies the place in the profession that malaria used to. It has been

my experience that nearly all local joint pain is rheumatism, especially in people who are over-fed and under-exercised; it disappears under light diet and general systemic treatment. However, when it comes to persistent pain, I agree with Dr. Willard, and one will usually find infection or beginning tuberculosis.

DR. DE FOREST WILLARD, Philadelphia: Dr. Martin is speaking of one class of cases and I of another. I think his cases are gout and not rheumatism. Local joint pain, especially as it occurs in children, is never rheumatism, unless there are very positive signs which are clearly diagnosable.

Successful Experiences in the Immediate Operation for Ruptured Extrauterine Pregnancy

DR. GEORGE ERETY SHOEMAKER, Philadelphia: The whole situation has been unnecessarily obscured by a discussion which has arisen over the proper management of perhaps 5 per cent. of the cases. In all the others there can be, in my opinion, no discussion; the patients are better operated on at once to avoid either recurrent hemorrhage or chronic invalidism. A waiting policy ignores two important elements of uncertainty and danger. (a) chance of wrong diagnosis; (b) chance of renewed bleeding on reaction. Certain patients with tubal abortion with small hematocele would recover by absorption if let alone, but who can pick the cases? I have seen in my own practice and in consultation thirty-seven cases of ectopic gestation. While the number is not large it represents all the varieties of ectopic gestation, and it is a great satisfaction that operation was not regretted in any case and I am sure that some lives were saved by it.

DISCUSSION

DR. GEORGE D. NUTT, Williamsport: I believe that we should operate on these patients early. My plan has been to do an immediate operation in all cases of extrauterine pregnancy or suspected extrauterine pregnancy, unless there is shock or something to contraindicate operation. When there is shock operation should be delayed until we can fill up the blood-vessels, which we usually can do while we are waiting for operation, by using salt solution. I think the waiting policy is a bad one.

DR. J. C. DACOSTA, Philadelphia: Extrauterine pregnancy occurs more frequently than we imagine. At first I did not recognize the condition. I believe in immediate operation as soon as the patient can be got into condition and prepared for operation.

DR. G. W. GUTHRIE, Wilkes-Barre: To me the question is: Should we perform an immediate operation when the patient is in a condition of shock? I have found, in these cases, that by judicious care, waiting, salt solution (not given intravenously, however, but by rectum), that the patient will rally within a few hours, if the prostration is due to shock, and I wait until then.

DR. JOHN A. MCGLINN, Philadelphia: It is impossible to lay down any hard and fast rule in regard to the operation in these cases, and the surgeon should use his judgment in regard to the case. However, in the vast majority of cases, except those in which there is extreme shock, immediate operation is the best.

DR. THOMAS C. STELLWAGON, Pittsburg: I am an advocate of the delayed operation. The fact that patients almost invariably react before they get into the hands of the surgeon has saved many lives. Initial hemorrhage does not occur, as a rule, and recurrent hemorrhages do not occur under proper treatment. However, if the surgeon believes his patient is bleeding to death it is unsurgical to allow this and his duty is to open the abdomen.

DR. C. F. CHANDLER, Philadelphia: It is a very bad practice to give salt solution for any length of time before an operation. I believe in giving it when one has tied up the arteries.

DR. GEORGE M. BOYD, Philadelphia: It is hard to measure the degree of shock, and it is difficult to say how long we should wait for the reaction. Patients die from primary hemorrhage there is no doubt, and we cannot tell when they may die from a secondary hemorrhage. In the majority of cases we should go in promptly and get out as quickly as possible, do clean surgery, but not too elaborate.

DR. GEORGE ERETY SHOEMAKER, Philadelphia: I have never seen a case so bad that I could not operate by the time I had everything ready. In most cases by this time there will be some reaction. I know of two patients who died in their beds in the hospital waiting to get well.

SYMPOSIUM ON PYOSALPINX

The Causes, Symptoms and Differential Diagnosis of Pyosalpinx

DR. M. BROOKE ANSPACH, Philadelphia: The commonest cause of pyosalpinx is the gonococcus, although other bacteria also may produce suppurative inflammation of the tube. The pathologic changes in the pelvis associated with gonorrheal pyosalpinx are nearly all the result of the local peritonitis which accompanies its formation. Cystic degeneration of the ovary often occurs. A Graafian follicle may be secondarily infected with the ultimate formation of either an ovarian or a tubo-ovarian abscess. The pathologic changes caused by the streptococcus are more apt to affect the cellular tissue at the base of the broad ligaments or the ovary. The infection travels mainly through the lymphatics or the blood vessels. The symptoms of acute pyosalpinx closely resemble those of acute pelvic peritonitis, and the most important lesion from which it must be differentiated is appendicitis because in appendicitis early operation is indicated and in acute salpingitis operation should be postponed until the temperature has dropped to normal and the acuteness of the attack subsides. In distinguishing between appendicitis and acute gonorrheal pyosalpinx, examination should be made for evidences of gonococcus infection. The pain in pyosalpinx is usually near the midline, less confined to one side and lower than in appendicitis. A difference between the right and the left rectus muscle is not so often noted. The symptoms of nausea and vomiting are not nearly so marked and all symptoms subside more quickly under treatment. The symptoms of chronic pyosalpinx are the result of the pelvic peritonitis. From the resulting adhesions there are vesicle irritability, constipation, painful defecation, backache, pains referred to the limbs from pressure on the nerves which pass through the pelvis, profuse and painful menstruation, tympanites, and chronic diarrhea.

Conservative Treatment of Pyosalpinx

DR. JOHN W. LUTHER, Palmerton: The following reasons are offered for the conservative treatment of infections of the Fallopian tubes: 1. The patient is weakened by acute disease and less able to withstand operation. 2. An additional strain is thrown on the excretory organs by the anesthetic already overburdened by toxemia. 3. Organs which can and will return to the functionally normal are not sacrificed. Ovaries, which are being credited by physiologists with an internal secretion of value to the organism, may frequently be saved. 4. There is grave danger of infecting uninfected tissues by operating during the acute process. 5. The danger of inflicting injury on adjacent, adherent and important viscera is lessened. 6. There is a possibility of the abscess becoming sterile, when operation will be attended with but little danger. 7. The disease is largely self-limiting, rarely causing death when properly treated. Should operation be necessary only those structures which are irreparably diseased should be removed.

A Method of Implanting Ovarian Tissue in Order to Maintain Ovarian Function

DR. WILLIAM L. ESTES, South Bethlehem: The operation I wish to advocate and the method I wish to describe is adapted to the cases of salpingitis and salpingo-oöphoritis, both of a catarrhal and suppurative kind, in which the whole of both tubes must be removed, and a portion, at least, of one or both ovaries must also be sacrificed. The operation is founded on physiologic principles and the experience gained in the preservation of small bits of ovarian stroma in suppurative and other diseases involving the whole of the tubes and part of the ovary. I am not sure that I can claim priority in the use of this special method. I can, however, positively assert, that I have never seen or read of any other operator using it. It has proved uniformly successful in my clinic in regard to the continuation of menstrual function, and in two patients of

whom we know it has been followed by pregnancy. In my method the blood supply from the uterine anastomoses is never or very rarely cut off completely. Even if it is, the ovarian graft fitting directly into the walls of the very vascular uterus soon has an established blood supply which is quite adequate for even this organ which is accustomed to so rich a supply of blood.

Discussion on Pyosalpinx

DR. B. F. BAER, Philadelphia: I can endorse what Dr. Estes has said, and a little experience I had forced me into conservatism. A woman came to me for the cure of sterility. I told her I could not cure the sterility, but would relieve the symptoms. I operated on her and found conditions such that I was going to remove the dead tissue and ligate on both sides, when I was deterred from so doing by her brother, who was a physician and was present. I did not ligate on the right side, but closed the abdominal wound and she recovered, and fifteen months afterward gave birth to a child. Many times since I have saved an ovary and tube which formerly I would have removed.

DR. FRANCIS P. BALL, Lock Haven: This matter has been brought to my attention in a medical and legal way, and I much regret the prevailing impression that pyosalpinx means a gonorrheal infection. This is true in many cases, but not always true, and we should teach our patients this fact. This idea causes a lot of trouble in a domestic and commercial sense.

DR. PHILIP MARVEL, Atlantic City, N. J.: It seems to me that conservatism may be carried too far in the matter of delayed operation and technic of operation in these cases, and I cannot see that it is justifiable.

DR. GEORGE ERETY SHOEMAKER, Philadelphia: If the gonococcus is present we assume a great many risks in being conservative. I have been disappointed in conservatism, that is, as to bringing freedom from trouble. Most people want to be well and stay well after going through one operation.

DR. GEORGE W. GUTHRIE, Wilkes-Barre: I have made it a rule never to operate on a woman for appendicitis without making a vaginal examination. This can be done through the rectum if necessary. My experience has lead me to delay and to be conservative in operative cases of gonorrheal pyosalpinx, as sometimes these patients recover of themselves, and if they do not the chances for saving them are better if the operation is delayed.

DR. GEORGE ERETY SHOEMAKER, Philadelphia: I think that if we can demonstrate that the appendix is the primary offending organ we should operate at once, but if it is the tube we should, if possible, delay. I make an exception to this delay particularly in postpuerperal cases, and when a husband incurs an acute gonorrhea during a temporary absence and his wife becomes infected immediately after a miscarriage or a labor. These cases usually require immediate operation and drainage.

DR. ELLA N. RITTER, Williamsport: In postpuerperal cases I believe that occasionally medicinal treatment can be employed and is effective.

DR. GEORGE D. NUTT, Williamsport: I think that the danger of operation in pyosalpinx is gradually lessened and the benefit increased if the vagina is drained, especially if there is pus in the cavity itself; then do a radical operation and remove such parts of the organ as is necessary to secure the future comfort and happiness of the patient. However, few patients seek help for any reason except for relief from pain and distress. They care little about any future action from these organs, and if we do not relieve them by operation they declare it is a failure. I have been conservative, but have taken into account the wants of the patient in regard to the operation. I think we must take our experience and work out our own plan of doing these operations in such a way as will insure the best results for the patients.

DR. JOHN M. THORNE, Pittsburg: I would like to mention the ideas of Dr. Simpson, who is not here, in regard to the time of operation. He treats the acute stage with rest, ice, etc., until the temperature and pulse are normal and most of the pain and tenderness have gone, and then in about a week if there is no reaction followed by fever and rapid pulse, increased pain and tenderness, he operates. If there is reaction he goes back to treatment. I think that an operation done in subacute or chronic stages is much safer than if done in the acute stage. That is what he means by delayed operation, and not waiting sixteen or eighteen months.

DR. JOHN W. BRUNER, Bloomsburg: The cases that Dr. Shoemaker has spoken of are the most dangerous that we encounter, and I think they are the most dangerous for puncture. It is a question in my mind as to what is the best plan of treatment to pursue. If you operate on these patients early in this condition you have a mixed infection, which is rapidly absorbed through the puncture made in the vaginal wall, and very often the patient is reinfected and dies, and if you allow them to go they rupture and the patient dies.

DR. BROOKE M. ANSPACH, Philadelphia: These patients should not be operated on early. They should be given the benefit of expectant treatment. The universal rule is to keep patients waiting until the temperature falls to normal. The troublesome cases are those in which the temperature does not go down. In these cases, if there is a large tumor which can be easily drained by a simple vaginal incision, I think this should be done. If a radical operation is done the patient is very likely to die. Conservatism in these cases is often followed by failure, and it is advisable to put the question to the patients and let them decide whether they want the disease removed and then bear the consequences (tell them what they may be) or take the chance of submitting to another operation and still have the chance of possible pregnancy.

Two Cases of Traumatic Tetanus, One Ending in Recovery

DRS. R. MAX GOEPP and A. A. ESHNER, Philadelphia: Of the two cases, the first was the usual type of case seen in hospital practice and terminated fatally at the end of a week. The patient was a colored man, adult, admitted with the statement that he had been suffering for two days with tetanic convulsions. The chief point of interest was that, although there was no history of any infection, no wound could be observed either on the cutaneous or mucous membrane and the man, who was quite conscious at first, remembered no injury that could have given entrance to the bacillus. The second patient was a boy of 8. Invasion was through an infected wound of the leg inflicted with a sharp stick from a stable-yard. The period of incubation was about twenty days. He was treated with tetanus antitoxin and spinal injections of 25 per cent. magnesium sulphate. The active period of disease was fourteen days, during which eleven injections of antitoxin (3,000 and 5,000 units) and twelve intraspinal injections of magnesium sulphate (2 c.c.) were given. The antitoxin was given subcutaneously and intravenously. Recovery ensued.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Thirty-fifth Annual Meeting, held at St. Louis, Oct. 12-14, 1909

(Continued from page 1592)

President's Address: Medical Education—Past, Present and Future

DR. JOHN A. WITHERSPOON, Nashville, Tenn.: This being the largest independent medical society in this country, it should go on record as standing for more than social and scientific work in its meetings and stand firmly for medical education in its highest sense of progress and wield its influence to bring about reform in medical teaching by insisting:

First, on every state within its territory having uniform medical laws.

Second, that none but men of culture and strictest integrity be placed on examining boards and that politics be kept out of all medical transactions.

Third, that colleges not having equipments to teach modern medicine should not be permitted to do so and that none should assume the responsibilities of teacher, who is not by training and natural talent especially fitted to impart and instruct others.

Fourth, that no college be recognized that does not insist on sufficient preliminary education and mind training to receive and digest modern medicine of every student as an entrance requirement, and a standard curriculum, in which full laboratory and clinical facilities will insure that none but good and well qualified men will be graduated.

Fifth, that all schools give prominence to the teaching of hygiene and sanitation departments, sadly neglected in the past, but in preventive medicine so necessary for the protection of people from infectious diseases, either endemic or epidemic.

Sixth, that we insist on the fact that colleges must have endowment, and that no philanthropy is more needed or deserved, and none will give greater returns both by insuring the people that none but competent men will belong to our profession, and financially, because they will enforce laws which will forever bar the entrance of epidemic scourges into the ports of this, the grandest and most glorious country that was created for the enjoyment of mankind.

Modern Surgery of the Digestive Tract

DR. JOHN B. DEAVER, Philadelphia: The two prevalent conditions of the stomach which may be considered grave menaces to the life and health of the patient are carcinoma and ulcer. It is out of the question that carcinoma anywhere can be considered as offering any opportunity for the display of medical agents, and we have gradually come to a realization that the same holds good of gastric ulcer. Our problems, as regards these grave and not infrequent conditions, are manifold. They may be summed up into several subdivisions, diagnosis, propriety and method of surgical intervention, and the results of surgery of the stomach. It is a lamentable fact that our diagnostic methods and results in diseases of the stomach have lagged far behind the improvements in surgical technic and pathologic experimentation. It is to the surgeon that credit must be given for showing that carcinoma of the stomach is generally recognized long before it has reached this final stage. The exploratory operation, so-called by its opponents, but more rightly considered an early operation on early symptoms, is responsible for this. In any person at or beyond middle age, grave dyspepsia with progressive loss of weight and strength, should be looked on with suspicion. Anorexia, especially that form which manifests itself in aversion to meat, should be enough to cause a careful study of the case. Often slight epigastric tenderness and a feeling of oppression after eating, even the lightest of foods, will be the first symptom to come to the patient's attention. In cancer of the stomach, excision, when possible, and gastroenterostomy when we can only hope to drain the stomach, offer us the only hopes of permanent cure or of temporary relief. The mortality of pylorectomy is low, that of gastroenterostomy almost nothing. The main difficulty, and one which seems most hard to overcome, is to bring patients to operation early enough. I do not say "operate for dyspepsia," but I do advise operation in permanent, grave dyspepsia in individuals of middle age, even when there is no apparent anatomic cause.

Gastroenterostomy as a cure for gastric ulcer now occupies an undisputed place. It must not always be recommended; in acutely bleeding ulcers it is worse than useless. Its initial mortality in benign conditions of the stomach is less than 3 per cent., in the hands of experienced operators, and its complications almost none. The end-results are good.

SYMPOSIUM ON EXOPHTHALMIC GOITER

Medical Treatment of Exophthalmic Goiter

DR. S. P. BEEBE, New York, detailed the results of serum treatment of this disease and said that in many respects it was very encouraging. He has seen the effects of surgery as practiced by a variety of surgeons. Men of limited experience should not operate on exophthalmic goiter; none but the most experienced surgeons should undertake this operation, which requires not only great judgment and skill in its execution, but in the preparation of the patient. No greater harm can be done than when a number of young surgeons take it for granted that this is the operation to do and say by all means let us do it right away. They should serve a long apprenticeship under surgeons before doing such a formidable operation.

Postoperative Results in Exophthalmic Goiter and Tumors

DR. GEORGE W. CRILE, Cleveland, Ohio: This brief report is based on a total of 278 operations on the thyroid gland. I have operated on fifteen malignant tumors. In thirteen, the diagnosis was either made or suspected. All of these patients died either as operative deaths or as recurrences. In two, one a sarcoma and one a carcinoma, malignancy was found in the routine pathologic examination and was not suspected clinically. My personal experience and the reports from a number of clinics lead me to conclude that cancer of the thyroid is at present rarely, if ever, diagnosed in its curable stage and the occasional cure is accidental. Among the benign tumors and plain goiters there was one fatality. In malignant tumors diagnosed clinically the postoperative results are as uniformly unsuccessful as they are successful in plain goiters and benign tumors. A study of my series of seventy-two operations for Graves disease, presenting, as they do, numerous and complex symptoms, and involving many organs as well as the most fundamental vital processes, impressed me with the great, almost unsurmountable difficulty or even the impossibility of compiling any statistical table that accurately represents the net clinical results. The longer the disease has existed, the greater the organic changes, and in consequence the more tardy the convalescence, and if the organic lesions have progressed to a certain degree the operative risk is greatly increased and the risk may become an operative impossibility. In these desperate cases, when operative recovery takes place, the convalescence will be correspondingly slow, and stormy and incomplete. The ship has gone on the rocks and it is the wreckage that we are dealing with. I have seen no patient with this disease who was not benefited by operation. The majority regard themselves as cured. Operated on successfully before organic changes of importance have occurred, and acknowledging all the difficulties and shortcomings, I know of few classes of cases in which is experienced such deep and fundamental relief as in acute toxic Graves' disease.

Primary Bilateral Ligation of the Upper Poles of the Thyroid for Exophthalmic Goiter

DR. J. H. JACOBSON, Toledo, Ohio, drew the following conclusions: 1. Ligation of both poles of the thyroid gland, acts first, by diminishing the blood supply to the gland and thus diminishing immediately its activity; secondly, by directly diminishing and preventing the gland secretion from entering the general circulation by way of the main lympathic channels, which leave the thyroid body at its upper poles; and thirdly, by causing a subsequent atrophy of the gland itself. 2. The operation of "pole ligation" is much easier to perform than ligation of the thyroid vessels, and may be as effective as a partial thyroidectomy. 3. It does not disturb the blood supply of the parathyroids, nor endanger the recurrent laryngeal nerves. 4. Theoretically, at least, and from the simplicity of its performances, it would seem that "pole ligation" should entirely supplant the operation of simple ligation of the thyroid vessels in this disease, and in many cases the necessity of partial thyroidectomy. 5. As a preliminary operation to partial thyroidectomy it will be found of great value. 6. At present we are warranted in saying that "pole ligation" offers the prospect of cure in many cases and of lasting improvement in others. 7. The operation of "pole ligation" is a safe one and in skilled hands should have no mortality.

Value of Thyroidectomy in the Treatment of Catatonic Dementia Præcox

DRS. ALLEN B. KANAVEL and LOUIS J. POLLOCK, Chicago: The paper summarizes the results obtained in operations on twelve patients with this disease, operated on at the Dunning Institution for the Insane. The cases were studied by Dr. Pollock and the patients submitted to operation. Dr. Kanavel reports his results as follows:

There was absolutely no result in any of the old cases. Of three patients operated on in the so-called favorable stage, two showed marked improvement lasting in one case for two months, and in the other for six months. The third showed no change at all. The two who showed temporary improvement relapsed at the end of the periods mentioned and are now in practically the same condition as before operation. The pathologic examination of the glands, did not show changes favoring the diagnosis of thyreotoxicosis, although the changes were compatible with it. Berkley still reports favorable results in

his cases, but the results of the investigation in the present series cannot but lead one to a most conservative report concerning the value to be derived from the procedure.

Surgical Treatment of Exophthalmic Goiter

DR. A. J. OCHSNER, Chicago: Exophthalmic goiter becomes a surgical disease after it has been shown that internal treatment and treatment by serum are of no avail. When cases have advanced to the point of great interference with the function of the heart muscles and of the nervous system, then the results from surgical treatment are not promising.

Discussion on Exophthalmic Goiter

DR. HERMAN TUHOLSKE, St. Louis: The thyroid gland is an organ necessary to life. Without it trophic changes will be inaugurated of such a character as to result in the decay or death of the patient. This factor should be kept constantly in mind in considering the various phases of this subject. It is the experience of all surgeons that there are a number of patients with exophthalmic goiter who will recover with or without treatment, and while that number is small, still it becomes a factor in discussing the value of the remedies that have been used in the cure of this disease.

DR. ARTHUR R. ELLIOTT, Chicago: The tone of the papers read is preponderatingly surgical. This is in keeping with the present tendency which has initiated a movement strongly towards the assumption that this is a surgical affection, but perhaps not always in the interest of rational therapy. This is probably to an extent due to the fact that medical measures are unsatisfactory and unsuccessful in a certain proportion of inveterate cases of exophthalmic goiter. It is not to be forgotten, however, that the medical practitioner comes in contact frequently with many cases of thyroidism in various stages and degrees of intensity, many instances of which undergo a symptomatic cure, if we can speak of such a thing as curing this disease, and a large proportion of the patients improve under measures intelligently applied, such as rest, tonic treatment, dietetic therapy, etc. This is true not only of the milder and the chronic types of thyroidism, but of many instances of more acute Graves' disease, as those who practiced before the days of thyroid surgery can testify. Without directing any criticism against the surgical treatment, which in the hands of expert and experienced surgeons has amply justified itself by results, it is a fact that in the hands of the average surgeon the operation of partial thyroidectomy is attended by high mortality.

DR. J. HENRY CARSTENS, Detroit: The symptoms of this disease are very obscure, but there is one symptom I want to emphasize. Take a young woman who has repeated attacks of palpitation of the heart, without any particular cause, without any other symptoms, such as protrusion of the eyes, enlarged thyroid, etc., we should bear in mind constantly Graves' disease.

Sigmoid Diverticulitis

DR. DANIEL N. EISENDRATH, Chicago: There have been many autopsy reports of peritonitis due to perforation of these diverticula, but their rôle in the production of definite clinical pictures was not known until a paper of Gräser in 1898. Diverticula of the sigmoid as a rule are acquired. They may occur anywhere in the large intestine, but are most common in the sigmoid, ending abruptly at the rectum. Unless they undergo secondary changes they do not give rise to any symptoms. Telling in 1908 collected 105 cases. Of these nearly one-half showed no clinical symptoms, but were found by accident at autopsy. Diverticula are most apt to occur in two rows at either side of the gut. They may, however, develop at the mesenteric attachment and occur between the layers of the mesentery. In some cases they are simply protrusions of the mucous membrane into the appendices epiploicæ, while in others they form definite pouches either oval or flask-shaped. One of the most important factors in the production of diverticula is muscular weakness incident to old age and the presence of considerable fat in the intestinal wall which favors a pushing out of the mucosa. The most frequent secondary pathologic changes are (a) infection of the general peritoneal cavity without perforation; (b) acute or gangrenous inflammation resembling the same pathologic form of appendicitis; (c) acute perforation or formation of an abscess, or general peritonitis. The preceding pathologic forms greatly resemble corresponding types of appendicitis. The other varieties not occurring in appendicitis are fistulas between the diverticula and the bladder or the bowel, and the development of a hyperplastic inflammation greatly resembling in appearance carcinoma. The latter form causes great thickening of the gut wall, so that its lumen is reduced to a minimum. The clinical cases can be divided into the acute and chronic forms. To the former belong the catarrhal gangrenes, with or without localized abscess formation, and perforative with general peritonitis. To the chronic belongs the chronic hyperplastic or stenosing form, the enterovesical fistulous form and the chronic adhesive form cause acute or chronic intestinal obstruction. The acute forms resemble the corresponding forms of appendicitis, except pain and tenderness, rigidity and tumor formation, when present, occurring in the left iliac region. The treatment of these does not differ much from the corresponding forms of acute appendicitis and, unless the case is recognized, recurrence is apt to take place. In one case diverticula were found filled with enteroliths during the operation for hernia, and in a second case general peritonitis was due to perforation of diverticula. No doubt many of the cases of the stenosing form or peridiverticulitis have been erroneously diagnosed as carcinoma of the sigmoid.

DISCUSSION

DR. ERNST JONAS, St. Louis: A point of practical importance is that a condition of this kind is often mistaken for carcinoma of the sigmoid, and some patients with sigmoid diverticulitis have been operated on for carcinoma of the sigmoid. Dr. William J. Mayo has reported several cases in which he removed part of the sigmoid for a condition of this kind, believing at the time of the operation that he had to deal with carcinoma of the sigmoid, and only after careful pathologic examination of the specimen did he believe that it was a chronic inflammatory condition of the sigmoid due to diverticulitis. The weakness of the muscular walls, which is mentioned as an etiologic factor, must either be hereditary or acquired. Very little can be done for the patient in whom the weakness of the muscular walls of the sigmoid is hereditary, but in the acquired condition we have first hypertrophy, and later on dilatation and weakness of the muscular wall resulting whenever there is any obstruction further down. Adhesions around the sigmoid, which pull it out of place and interfere with the drainage, are the cause of diverticulitis. Another cause for diverticulitis may be a slight chronic ulceration in the particular place where diverticula are found.

DR. J. RILUS EASTMAN, Indianapolis: I am reminded of two cases in which the abdomen was opened for what was obviously an acute generalized suppurative peritonitis, in which the symptoms were ascribed to the rupture of an inflamed appendix. Every one has opened the abdomen for these indications when there was no evidence whatever pointing to any infection arising in the upper abdomen, but every bit of evidence pointed to an infection arising from the lower zone of the abdomen. We have all cut down on the appendix and found suppurative peritonitis with the escape of a thin fluid filled with flocculi, followed by a thick, creamy pus. We have examined the appendix and found it practically normal. We have removed the appendix, not knowing what else to do with it, and we have either irrigated or left the abdomen dry and put in a large tubular drain. In a recent case of this general character I found that the adhesions in the intestines were on the left side, and while it would be absurd for me to say in the presence of such meager evidence that I had to deal with a condition like that described by Dr. Eisendrath, still I submit that in the future I shall be very cautious and shall be on the lookout for infections arising from these diverticula in the sigmoid, because I am reasonably sure that the sigmoid diverticulitis, followed by a rupture, has given rise to more cases of general suppurative peritonitis than we have imagined, and if we are to consider adhesions in the future we will not only look to the right side of the abdomen for the cause of this suppuration, but also occasionally to the left side.

DR. EDWIN WALKER, Evansville: I am satisfied that I operated last week in such a case as Dr. Eisendrath has described.

There was an abscess on the left side, exactly like an appendiceal abscess. I am reminded of a case which was diagnosed as carcinoma of the sigmoid flexure, and the post-mortem findings were precisely like those he described. It was thought at the time that the trouble was inflammatory, but I thought there was perforation and inflammatory trouble. This case occurred twelve years ago, and in the light of what has been said to-day it was without doubt a case of sigmoid diverticulitis.

DR. C. W. BARRETT, Chicago: It is likely that in many cases constipation causes the dilatation and that it results in overdistention of the abdomen, causing separation of the muscle fibers, and this furnishes opportunity for the mucous membrane to herniate between the weakened muscle fibers. In an acquired condition of this kind we should do away with any cause for overdistention; but instead of being able to do nothing in the congenital condition, it is all the more important that these conditions be looked after. Another practical point is that we have been inclined to deal with enlarged and inflamed appendices epiploicæ as though it were merely a question of having to control hemorrhage. We may not only have to deal with hemorrhage, but with the communication of the bowel, the same as in dealing with the appendix. Recently, in dealing with a pus tube, I felt it was desirable to cut off several of these appendices epiploicæ and deal with them as I would with hemorrhage.

DR. R. E. WILSON, St. Louis: I differ from Dr. Eisendrath and others in reference to acquired diverticulitis. I still cling to the old theory that all cases of diverticula of the sigmoid are congenital and that we must go back to the embryologic formation in the primitive hindgut from which the sigmoid is developed and look there. I do not believe the conditions mentioned cause diverticula of the sigmoid, but that a weakened condition in the gut is the sole cause.

DR. R. H. BARNES, St. Louis: I believe diverticula of the sigmoid, as well as of other parts of the bowel, are more common than most physicians or surgeons believe. These diverticula do not always cause trouble and may only be recognized post-mortem. I believe the majority of cases of diverticula are congenital. There is a localized weakness of the muscular wall of the bowel which forms them, and these become infected through the fecal matter or from some other cause and then we may have the symptoms of diverticulitis. The majority of cases are not recognized from the clinical symptoms and for that reason are overlooked.

The Advantage of Pfannenstiel's Incision

DR. H. O. WALKER, Detroit: The fibers of most of the abdominal muscles run either diagonally or transversely; the rectal muscles are exceptions. The principal blood-vessels supplying the abdominal region are the two superior and inferior epigastrics and their branches. These all run, in a general way, parallel to the recti muscles. It is never necessary to cut more than the two inferior epigastrics, and even this is not always required. The nerves supplying the abdominal region also run, in a general way, parallel to the muscle fibers. The prevention of hernia can no doubt be aided by incisions in line with the muscle fibers. It is more necessary to respect nerve fibers in incisions than blood-vessels, generally speaking. The cosmetic advantages of cross cuts are very apparent. Pfannenstiel's cross incision fulfils all of the above requirements. Thirty-eight patients have been operated on by this incision through which practically all possible pelvic operations have been carried out.

DR. GEORGE GELLHORN, St. Louis: Advantages of the Pfannenstiel incision are becoming more and more appreciated in America. It has many advantages over the longitudinal incision. I have used this incision for a number of years and have not yet seen a case of hernia, although in four cases I had disturbances of wound healing. There is, however, a limitation to the use of this transverse incision, in that the larger tumors, which extend about half-way to the umbilicus, are not so easily removed through this incision as they are through the longitudinal incision, but outside of that fact the advantages are all in favor of this transverse incision.

DR. H. O. WALKER: We can remove very large tumors through this Pfannenstiel incision and we can go still further with this incision in that we can reach the stomach, pancreas, and gall-bladder, and do any surgical work which may be necessary on any of these organs. It is an incision that has a great many advantages over the longitudinal incision in many operations in the pelvis.

Sarcoma of the Prostate

DR. JOSEPH RILUS EASTMAN, Indianapolis: Of malignant neoplasms of the prostate, carcinoma is the most common, although, as Barth stated years ago, sarcoma of the prostate is doubtless less rare than has been imagined, and owing to the circumstance that until recently very little, if any, distinction was made between carcinoma and sarcoma, there has been, perhaps, some misconception on this point That malignant disease of the prostate is much more common than has been appreciated heretofore may be inferred from the experience of such careful observers as Hugh Young, who in 500 cases of prostatic enlargement found 100 cases of carcinoma, or one case of carcinoma to every four of prostatic hypertrophy, and although there have been reported less than thirty cases of sarcoma of the prostate of primary origin in the gland, which have been satisfactorily proved to be sarcomata, no doubt in view of the general indifference as to microscopic examination many cases of sarcoma of the prostate have been carelessly called carcinoma or even tuberculosis. The case which I report is one of spindle-celled sarcoma of the prostate occurring in a man of 27, and apparently running a course covering five years and having many characteristics in common with tuberculosis. On microscopic examination, the masses of tissue at the base of the villi removed by the curette were found to be infiltrated and degenerated, showing a preponderance of embryonic connective tissue cells with a relatively small amount of mucoid intercellular substance. The tissue removed from within the capsule of the prostate was made up of the same spindle-shaped connective tissue cellular elements.

(*To be continued*)

UTAH STATE MEDICAL ASSOCIATION

Fifteenth Annual Meeting, held at Ogden, Sept. 21-22, 1909

The President, DR. EZRA C. RICH, Ogden, in the Chair

Preventive Medicine

DR. E. V. SILVER, Salt Lake City: The medicine of the future will be largely preventive. The future victories of medical science must be the victories of preventive medicine. Human life has been compared to the burning of a candle, and the extinction of life at the end of its natural cycle can scarcely be regretted. But lives cut off before they are scarce begun entails a needless loss to the community. In the past, millions of lives were annually lost through plagues, pestilences and diseases which to-day are easily controlled and prevented. The cure of disease was variously attempted in the remotest ages, but the prevention of disease is strictly a modern phenomenon. In 1798 Jenner suggested and proved the efficacy of vaccination in smallpox. Hardly a century later Pasteur established the germ theory of fermentation. The discoveries of Pasteur and Koch, together with the work in antisepsis by Lister, brought about a revolution in medicine. The great triumph of the nineteenth century is the discovery of the causative agents of infectious diseases. Prevention will prevent preventable diseases, but other curable diseases must be recognized in the curable stage. Society to-day is divided into three great classes: the perfectly healthy, the apparently healthy, and the unhealthy. Only a small percentage of our population belongs to the first class; very few are willing to be classed in the third class; those who belong to the second class are legion. People in this class must be advised to submit to medical examination periodically, in order that pathologic conditions may be recognized as early as possible. A curable disease must be diagnosed in its incipiency. The test-breakfast will demonstrate the presence of malignant disease long before a tumor can be felt and early enough for an operation to be of benefit. We have no insight into the causes and

prevention of organic diseases of advancing life. A large majority of people in this apparently healthy class are in middle life. Experience serves but to emphasize the disastrous result of overstrain, whether mental or physical. Too strenuous a life reacts on the whole organism with inevitable autointoxication—gastrointestinal, muscular, articular and cerebral. Hence come cancer, dyspepsia, muscle pain, gout, migraine, diseases of the kidneys, heart and arteries. A hopeful sign of the times is the interest taken by the public in prevention and sanitation. Until recently men measured the value of the medical art by its ability to cure a cold and other trifling ailments, unconscious of the many perils which preventive medicine had removed from his path. The medical profession is largely responsible for the lack of interest in the declining death rate and the increase in the expectancy of life, the means of preserving and preventing disease. The daily press and magazines teem with medical matters of interest to the reading public, and these popularized medical topics are eagerly read by the observing. The success of preventive medicine depends on the support and cooperation of the public. It is better to prevent the pollution of our houses, our food, our vehicles, and our streets by tuberculosis than to spend millions of dollars on treatment. It is better to spend a hundred million dollars and rid our country of anopheles and stegomyia than to see business wither at flood-tide under the blighting grip of yellow fever, and thousands perish from pest and malaria. It is better to prevent the pollution by sewage of a stream supplying a great city than to fight that pollution in the bodies of ten thousand innocent victims of typhoid. Preventive medicine is the medicine of the future and the final triumph of scientific medicine will be the suppression of diseases. In this struggle with the causes of disease we need not only the earnest and united support of the medical profession but the encouragement and financial aid of governments generally, state, city and village. Every dollar spent on sanitation brings returns. Nothing would be of more far-reaching benefit to the laboring man than to teach him how to avoid disease and preserve his health. All great reforms must have a beginning in the household. If we can interest our government and people, our educators and the public press in this great movement of abolishing disease by prevention, we may expect the millenium to come in due time.

Hemorrhage and Transfusion

DR. E. F. ROOT, Salt Lake City: The medical profession is greatly indebted to Crile of the Western Reserve University, and Carrel of the Rockefeller Institute, for most of the newer knowledge and technic on the subject of hemorrhage and transfusion. Through practical experiments on animals we are in possession of facts that explode former theories. The result of these experiments goes to prove the inadequacy of the means we have been most inclined to reply upon. Saline infusion accomplishes most when given early after hemorrhage, and given slowly. It should be absorbed from the tissues and not thrown directly into the circulation through a vein. If a larger amount is given than can be easily carried in the vessels, to an amount increasing the normal amount of circulating fluid, it will leak out into the tissue and can only be eliminated when the vessels have been somewhat unloaded. Rapidly filling the veins is liable to cause acute dilatation of the heart—in cases of extreme exhaustion either from hemorrhage or shock, death is often hastened in this way. Saline infusion is at best only of temporary benefit and should be given guardedly, and as soon after the hemorrhage as possible. Bandaging the limbs and lower part of the body has a beneficial effect in bringing up the blood pressure. The heart, under most circumstances, will work if it has anything to work with and needs blood or other suitable fluid rather than drugs, and the nearer we can get to the normal circulating fluid the nearer we approach ideal conditions. Transfusion of blood from one person to another is a very old idea, but was not successfully performed until recently. The proper technic for this operation requires that the intima of one vessel be joined to that of another, allowing the blood to flow across without causing any change in it. Up to the present time the history of transfusion is a record of failures. In the human species the blood should be obtained from a person as nearly related as possible, for it has been proved that similar blood mixes perfectly and causes no hemolysis. In simple anemia, when there is a lack of blood only, when the hemoglobin is low, but the blood not vitiated; or in cases of acute anemia from hemorrhage, transfusion gives immediate and permanent relief. In cases of severe and frequent bleeding from ulcerated surfaces, as from the bowel, transfusion may not only temporarily relieve the anemia but may arrest further bleeding by sufficiently nourishing the starved tissues. There is a vast difference between the temporary effect of saline infusion and transfusion of the whole blood. The latter is permanent in effect. Saline infusion often tides the patient over until the vital forces can rally, but it is rapidly eliminated, both in the natural way and into the tissues, and if given in excessive amount may do material harm. Care is necessary not to overdistend the heart by allowing the stream to flow too rapidly; from thirty to fifty minutes is required for the average transfusion. Acute dilatation is announced by dyspnea, distress or pain in the precordial region, cough and cyanosis. The second great danger is hemolysis, either direct or reverse, to guard against which blood of a similar quality should be used. Following transfusion, a chill of more or less severity occurs, just as after a saline infusion. There is also a slight rise of temperature. In tuberculosis, transfusion gives more than temporary relief. Before operation in chronic suppuration, transfusion may cause marked increase in the vitality. Transfusion is valuable in uncomplicated shock, as anemia plays an important rôle in the cause of death from shock. Transfusion is the ideal treatment for acute uncomplicated hemorrhages.

DISCUSSION

DR. RALPH T. RICHARDS, Salt Lake City: I had an opportunity of visiting Dr. Crile's laboratory. The description of the technic of transfusion, given by Dr. Root, is especially clear. I have had only one opportunity of trying this personally. There are a few points to be observed if one expects success. In a case of purpura, a boy was rapidly bleeding to death. The uncle volunteered as donor. Two operators worked on the arm of the donor, and two on the arm of the patient, independently, isolating the vessels to save time. We made one mistake in the anastomosis. We did not get enough of the adventitia out of the way. After inserting the vein through the canula we had a smaller flow than desired. Crile takes as much as one-half an inch of the adventitita out of the way. In Johns Hopkins Hospital, when some of the earlier experiments were being made in transfusion they infused a patient with pernicious anemia. The anemia patient did well, while the donor collapsed, requiring saline infusion for stimulation. The donor should be carefully watched to prevent accidents. In Mount Sinai Hospital a modified Crile's tube is being used. The same general plan is adopted, except that a small handle, two inches in length, is attached. The tube has a small slit down one side, so that a suture attached to the end of the vessel can be brought through the slit and the vessel pulled through. We should try these procedures on live or dead animals for the knowledge to be gained, and the chances for success in actual practice would be greater.

DR. E. F. ROOT: The important thing is attention to the details of technic. If the operation is undertaken at all, it should be done perfectly, so that no ill effects may follow. The one point that needs emphasis is that many of us have been using saline solution without regard to the amount of the solution put into the tissues, the idea being to introduce as much as possible and let it go at that. Not a few patients have died or suffered from acute dilatation of the heart, or in some other way have suffered, from this indiscriminate use of saline transfusion. While it is a good thing for temporary relief in many cases, some patients must have fresh red blood if any benefit is expected.

Differential Diagnosis of Intestinal Obstruction

DR. H. P. KIRTLEY, Salt Lake City: The most common causes of ileus are volvulus, intussusception, paralytic obstruction, compression, obturation and structural alterations. Pain is generally present and cramping or colicky in character. The site of the most acute discomfort is usually in the umbilical region at first, eventually centralizing itself about the dis-

turbed areas. Vomiting occurs early and is copious and severe; at first, gastric contents, bile, greenish or brownish material from the duodenum and jejunum; finally stercoraceous fluid appears. An important diagnostic feature is collapse, and when it occurs death may be expected. Constipation is generally present and is caused by mechanical occlusion or by paresis of the intestinal wall below the ileus. Meteorism develops gradually in passive chronic strangulation; in stenosis it occurs rapidly and is associated with the peristaltic waves.

Strangulation by bands occurs most commonly in young males. The associated pain is sudden, violent, agonizing and remittent in the umbilical or epigastric region. Tenderness is not localized, there is no tumor, meteorism occurs late, vomiting occurs early, vomiting is uncontrollable and rapidly becomes stercoraceous with total constipation, shock profound, with subnormal or lower temperature till sepsis occurs. Untreated the duration is from three to seven days.

Volvulus of sigmoid, commonly in men or advanced life, occurs with a history of constipation, onset milder than strangulation, pain less severe, paroxysmal, and in the hypogastric or iliac region. Vomiting is late, temperature normal or slightly elevated, shock slight, and the bowels may act at the onset of symptoms. Duration is from six to fourteen days.

Intussusception is more common in infants and young children, and there is generally some previous intestinal disorder, onset instantaneous or gradual, pain severe and intermittent, tumor present and characteristic early diarrhea, with discharge of blood and mucus. Vomiting is inconstant and shock varies from slight depression to profound collapse. Duration varies from a few hours to ten days.

Paralytic obstruction is characterized by its gradual onset after inflammation within the peritoneum, pain less severe than in other forms and diffuse over the abdomen, tenderness is general, vomiting is early and frequent. Constipation is marked, although gas may pass through the rectal tube. General condition is bad, with often high fever. Condition lasts from one to three days.

Obstruction of the bowel must be differentiated from perforation of the stomach or intestines, which was characterized by localized tenderness, muscular rigidity, distention, early disappearance of liver dulness and vomiting at the time that perforation occurs, after which it may cease. Feces and gas may be passed till the peritoneum is hopelessly inflamed.

Perforative or gangrenous appendicitis is distinguished from ileus by localized tenderness, muscular rigidity, fever reaching 101 within twenty-four hours.

Embolism or thrombosis of the mesenteric artery is generally a very rapid process, accompanied by terrific pain, beginning in the lumbar region and becoming general; patient is exceedingly restless and there is rapid accumulation of fluid within the peritoneal cavity.

Obstruction of the bowel must also be distinguished from the symptoms of biliary and renal colic, gastroenteritis and colitis, primary portal thrombosis, external hernia, acute hemorrhagic pancreatitis, distortion of the mesentery, pneumonia with marked pleural pain and, finally, the gastric crises of tabes. The treatment of ileus is essentially surgical and should be instituted with promptness, for an efficient, thoughtful diagnosis surgical eagerness is no substitute.

DISCUSSION

DR. A. A. KERR, Salt Lake City: Dr. Kirtley did not mention the presence of Meckel's diverticulum as one of the causes of intestinal obstruction. Two cases of this kind have occurred in my practice: in one case the diverticulum was two inches in length and actively inflamed. The case was far advanced when first seen and death resulted from general peritonitis. The most common type appears to be caused by chronic adhesions from localized peritonitis or appendicitis. The presence of occult blood in the feces or in the stomach contents often leads one directly to a diagnosis that would otherwise be made with difficulty. The routine work of the laboratory, the examination of the blood for the percentage of hemoglobin or the presence of a leucocytosis, and the examination of the urine and feces are always valuable aids in making a diagnosis and should not be neglected.

DR. J. S. RICHARDS, Salt Lake City: I recall a case of ileus that originated with the symptoms of an ordinary intestinal indigestion extending over a period of two or three weeks. When the characteristic signs of ileus developed the patient was sent to the hospital, as it was decided that an operation was indicated. The mesentery was very much distended and highly inflamed. At the autopsy a large abscess was found involving five or six inches of the mesentery, which had broken into the lesser peritoneal cavity. Four or five feet of the duodenum were gangrenous. In this case there was no fecal vomiting and the ileus developed gradually. In a similar case fifteen or twenty abscesses were found, varying in size from that of a hazel nut to that of a hen's egg. In postoperative cases of dilated stomach there is a close similarity to intestinal obstruction; it is often difficult to distinguish between them. The free use of the stomach tube will often relieve these cases of acute dilatation of the stomach very promptly.

DR. R. S. JOYCE, Ogden: It is not so much a matter of whether we are dealing with gangrene of the omentum, volvulus, intussusception, or other pathologic states as it is a question of whether we are dealing with complete obstruction of the bowel or not. If these cases go on for three or four days without surgical relief then operative procedures are useless. Intestinal obstruction must be recognized early. In some cases there may be very little pain, yet obstruction may be complete. In intussusception the condition may often be felt through the rectum.

DR. J. W. AIRD, Provo: I believe that the majority of cases of intestinal obstruction are due to intussusception. Secondly, bands of adhesions, the result of previous inflammations, form a common cause. I have seen a diagnosis of hernia made in a case of intestinal obstruction, and the true condition not recognized until the patient was ready for operation. The repeated reduction of a hernia by taxis is sufficient to cause enough traumatism in some cases to set up an inflammatory action with the formation of adhesions, and thus give rise to intestinal obstruction.

DR. A. J. HOSMER, Salt Lake City: I am disposed to think that we do not always go into the history of these cases as thoroughly as should be done. The history of the onset and development of intestinal obstruction should be thoroughly investigated. This is often the weak point in our examination and the reason why so many cases go unrecognized and pass beyond the stage where surgical treatment would otherwise effect a cure.

DR. H. P. KIRTLEY, Salt Lake City: Acute dilatation of the stomach should have been mentioned in the differential diagnosis. Its omission was an oversight. It is a condition that does not necessarily follow operations, as it occurs after typhoid, pneumonia, debilitating conditions, etc., and appears to be of nervous origin. Dr. Richards assures me that the free use of the stomach tube is very useful in relieving this condition.

(To be continued)

KENTUCKY STATE MEDICAL ASSOCIATION

Fifty-fourth Annual Session, held at Louisville, Oct. 19-21, 1909

The President, DR. JOHN G. CECIL, Louisville, in the Chair

The officers elected were given in THE JOURNAL, Oct. 30, 1909, p. 1493.

Proceedings of the House of Delegates

The reports presented by district councilors and by delegates of their respective county societies were very encouraging, as they showed that the spirit of organization of the profession throughout the state has gathered a momentum that cannot be checked.

The House of Delegates, by resolution, condemned the use of food preservatives, such as benzoic, boric, and salicylic acids, and their compounds. Such preservatives are not only unnecessary, but are detrimental and dangerous to the public health. The House went on record as being unalterably opposed to the adulteration of food of any kind whatever, as well as to any chemical preservative of food. The position taken by the American Medical Association in its fight against

food adulteration was endorsed, and also its action in appealing to Congress for such immediate amendments of the national Food and Drugs Act as may be necessary to attain the above necessary ends.

The House heartily endorsed and earnestly supported the American Medical Association, its officers and editor, its councils, and THE JOURNAL, in their attitude toward the nostrum evil and their fight for honesty and purity in foods and drugs; also in their great service in the promotion of higher standards of medical education and their splendid achievements in extending the power and usefulness of medical organization.

The House recommended the adoption of the Michigan plan of simple refraction for general practitioners, although there was a spirited debate pro and con on the subject.

The Committee on Antituberculosis Campaign recommended that the Association inaugurate and earnestly enter on a campaign of education, prevention and treatment of tuberculosis.

The House endorsed a bill proposed to exempt the professional confidences between physician and patient from disclosure on the witness stand without the consent of the patient. A bill endorsed by the State Pharmaceutical Association governing the sale of opiates was also endorsed and the Committee on Legislation and Public Policy was advised to lend its support in securing the passage of said bill.

The House adopted the report of the Committee on Contract Practice to the effect that no member of the association shall accept the position of club, society, lodge or organization physician, at a less rate than the regular or customary charges for like services rendered by other physicians for patients not members of such club, society, lodge, or organization, and any violation of this by-law shall be considered unprofessional conduct and render the member guilty thereof liable to suspension or expulsion from the association.

The House favored a state board of registration for nurses, to consist of six members, three physicians and three nurses, who may be superintendents of training schools for nurses.

The Committee on Public Health and Sanitation recommended that members urge on the friends of public health and sanitation, physicians, health officers, teachers, and the press, to continue the campaign of education already begun by holding public meetings in the different counties, inviting the people, and especially the teachers to continue these meetings.

The special Committe on Criminal Abortion presented a resolution, which was unanimously endorsed by the House, that every member should educate his community to a higher standard of belief and conduct with regard to the frightful prevalence of criminal abortion; that every county medical society should secure evidence against all persons suspected of producing criminal abortion in its jurisdiction, and presenting the same to the proper tribunal, and that the Association, through the appropriate committee, shall introduce into the next General Assembly a bill, the aim of which shall be the suppression of this crime and the punishment of the guilty.

The Committee on Medical Education was changed to the Committee on Medical Council. This committee recommended and endorsed a high standard of medical education, both preliminary and medical.

A special committee of five was appointed to draft and prepare a bill to deal more effectually with the social evil problem in Kentucky.

A Practical Talk on the Diagnosis of Mental Diseases

DR. E. M. WILEY, Lexington: To determine the question of mental soundness, a definite routine should be employed. First the history, present and past, both of the patient and family; the personal previous history of the disease; a detailed inquiry into the habits, traits, and physical illnesses of all the members and the patient's immediate family, and direct branches. Special attention should be given to mental peculiarities, alcohol and drug addiction, and criminal tendencies. The etiologic importance of heredity should not be overlooked. Dementia is a disease of slow progress, characterized by progressive deterioration, loss of voluntary activity, aural hallucinations and indefinite expansive delusions, despondency, sudden development of excitement, distractability of attention, persistent ideas, verbigeration, periods of pressure of activity, followed suddenly by conditions of inactivity, stupor, mutism, and catalepsy. In the paranoid form, dementia is characterized by numerous hallucinations and fantastic delusions, progressive paralysis of thought and will, emotional deterioration and impairment of memory. The insanities of old age are characterized by a progressive mental deterioration due to structural changes in the higher brain center secondary to vascular degenerations, making good the truism that "man is as old as his arteries." The insanities of this period are chiefly embraced under the term senile dementia. Mental loss is not followed by delirium, confusion and stupor, change of disposition, memory loss, expansive ideas, disorientation, motor unrest, loquacity, erotic tendencies, insomnia and deep depression. I make an earnest appeal to our medical teachers to see that no young man receives the degree of Doctor of Medicine who has not had clinical instruction in psychiatry. Especially should he be so instructed that he will be able to recognize the border-line cases. The world is full of Guiteaus, Czolgoszs, Prendergasts, and Thaws. They are in our midst committing crimes of every character. How are we to be protected? Nothing in the past has been done. Our only hope is in the coming generation of educated, trained young physicians, who, it is to be hoped, will take up the great social problem of asexualization, which has been so successfully begun in Indiana. It has long been my idea that state asylums should be utilized for clinical teaching. We have in the shadow of Louisville a large state hospital filled with patients with every phase of mental disease which, if proper steps were taken, could be utilized.

DISCUSSION

DR. W. F. BOGGESS, Louisville: In the care of the insane we have evoluted from the day when mad men were treated as such and confined with chains and staples, fed through holes in doors, to the present time, when the insane are treated as sick people. No mechanical restraint is used, and yet the fact remains that in the percentage of cures there has not been a very marked improvement. The reason for that is due to the fact that the family physician does not recognize the mental disease in its early stages, and when these people are finally committed to institutions or to specialists there is already brought about such destruction that it is impossible to do anything for these patients. The families themselves do not want to believe that they have to deal with mental cases. The family physician seeks to cater to their views, and the result is these patients are kept at home until it is too late for anything to be done when they are finally committed to a private or public institution.

DR. GEORGE P. SPRAGUE, Lexington: This subject should interest every physician and every citizen of the state. Insanity is on a steady increase in this state, so that we have in Kentucky one insane person to every 300 of our inhabitants; dementia præcox is unusually prevalent. We ought to have a means of early diagnosis in insanity, not only for the sake of the individual who may be treated early and cured, but for the sake of the state, for every chronic insane person is estimated to cost the state about $6,000 during the asylum treatment.

DR. J. G. CARPENTER, Stanford: The general practitioner should be an all-around specialist. Every year I see patients who have mental aberrations, and if proper treatment is instituted in time they will be restored to health and be allowed to remain at home. The whole profession should wake up. We should treat these patients at home early, and then the alienist will not have a chance to cure them.

DR. CURRAN POPE, Louisville: Early diagnosis in mental disease means early treatment, and early treatment frequently means cure. As soon as the diagnosis of any phase, form of character of mental trouble is made, the word hoplessness is immediately written over the case, and no attempt is made to realize that the many phases and forms of mental disease are nothing more than an expression of a disordered condition of the cerebrum, just as we would recognize a disordered condition in the liver. We certainly do not stop work the moment we recognize any disorder in any other organ save that of the highest organ of mankind—the brain. It is in the border-line cases that the greatest mistakes are made and the greatest harm is done. The general practitioner should recognize these

cases in the early stages, and should send these patients where they can receive the latest and best psychiatric treatment. I do not believe the blame for a failure to cure many of these patients should be laid at the door of the poor general practitioner, but a good deal of it lies with our legislative bodies and the people of the state of Kentucky. There is absolutely no asylum or hospital in the state of Kentucky under the care of the state. We have nothing but jailers to recognize the condition, and not physicians, who are applying modern treatment.

Treatment of Mutilated Extremities

DR. R. C. MCCHORD, Lebanon: More systematic conservative surgery should be practiced in treating mutilated extremities, and no primary amputation should be done where there is circulation in the distal extremity. The organized blood clot should be more often utilized when there is loss of the soft tissues.

DISCUSSION

DR. W. E. SENOUR, Bellevue: I recall a case that came into our hospital only a short time ago when five surgeons were present, four of whom recommended amputation. The other favored giving the patient more time. Three days elapsed, the condition of that extremity improved, and the patient's entire hand was saved, much to the credit of the one surgeon who pleaded so earnestly and so strongly to save it.

DR. J. G. CARPENTER, Stanford: The use of the blood clot is of the utmost importance in the treatment of compound and comminuted fractures. If the periosteum is destroyed and the ends of the bones are not kept moist by an aseptic blood clot or by antiseptic irrigation, the bones will necrose, so that the blood clot is of great importance.

Delirium Tremens

DR. F. M. STITES, Hopkinsville: Delirium tremens is a manifestation of chronic alcoholism. The pathology is the same as that of chronic alcoholism or what is frequently called wet brain. The symptoms are unmistakable. In treating these patients alcohol should be withdrawn. They should be nourished, and intelligent restraint practiced. Heart stimulants and sedatives should be used with moderation.

A Plea for the Surgery of Our Small Hospitals

DR. J. L. PHYTHIAN, Newport, delivered the address in surgery, and, among other things, said:

Modern medicine has imposed on us to-day duties that were unknown twenty years ago. The science of medicine has already attained a high degree of perfection, and its accurate application is daily becoming more exacting. The patient's interest is the sole thing we have to consider; then it becomes our duty to see that he has the best advice and skill available, and that he be placed in those surroundings which will be most conducive to his welfare and recovery. That the small hospital is invaluable to the community in which it is located no one can deny, and no community can do a nobler charity than the support of such an institution. The extraordinary reward that surgery holds out is a temptation to the unscrupulous or morally weak surgeon who is apt to confuse his financial interests with the physical necessities of his patient. There is a wide difference between the fee of the surgeon and that of the general practitioner, the surgeon may be easily biased in favor of the method that promises the larger reward in any case furnishing a meager excuse for resorting to the operating table. I desire to make a plea that something be done to uphold the high standard which surgery has attained—a plea for the profession, the people and the deserving poor who enter our institutions and must accept the service given them. The proper fitting of a man for surgical practice requires a much longer experience as a student and assistant than the most exacting medical school demands. A man should serve four or five or six years as an assistant to an active surgeon. During this period of preparation, as it were, as much time as possible should be given to observing the work of the masters throughout the world. Much may be done to suppress the evil of operating by inexperienced, incompetent men, by using greater care in the selection of staff surgeons in the small hospitals. If it were possible for the medical profession to-day to establish a higher degree of moral responsibility many of these evils might be averted. We need an active conscience in surgery and the application of the old but ever practical golden rule.

Tonsils and Adenoids

DR. S. G. DABNEY, Louisville: There are two classes of abnormal tonsils: first, the simple hypertrophied, with symptoms of obstruction and reflex irritation; second, diseased hypertrophic or atrophic tonsils, causing local or general infection, or both. General or distant diseases are believed to enter through the tonsils. In the modern treatment of diseased tonsils and adenoids the tendency is toward radicalism in their removal.

As to adenoids the description of Meyer is almost as complete to-day as it ever was, except that adenoids are regarded as a possible port of entry for general diseases, and should be removed.

The Pupils During Health and Disease

DR. ADOLPH O. PFINGST, Louisville: Some uncertainty exists as to what should be considered a normal pupil or one indicative of general disease. Fallacies to be guarded against in the examination of pupils are the age of the patient; inequality of light, entering the two pupils; difference in refraction in the two eyes, or defective vision in one eye; the possible use of some drug influencing the size and local diseased conditions, such as synechia, causing immobility of the pupils. From a diagnostic standpoint, the pupils are examined for their size, their reaction to direct light, their consensual reaction and for their reaction to accommodation and convergence. Pupils frequently do not react to light, though perception to light is present, and, on the other hand, pupillary reaction may persist in eyes without light perception. In the Argyll-Robertson pupil reaction to accommodation and convergence remains after reaction to light has ceased. The diseases in which the pupils are of especial value in diagnosis are tabes, progressive paralysis, hysteria, epilepsy and uremic eclampsia.

Diagnosis of Acute and Chronic Mastoid Disease

DR. J. A. STUCKY, Lexington: The cure of acute purulent otitis media is simply a question of drainage. Posterior drainage through the antrum will cure any ordinary case in which the mastoid cells are not already involved in a short time with little scar or deformity. If we effect cures in the acute cases we will have no chronic ones. It is the chronic cases that result in loss of hearing and life. Because the general practitioner first sees the acute cases the responsibility of much of the deafness that follows rests on him unless prompt relief is given. Therefore, correct diagnosis and prompt surgical treatment are most important. What the appendix is to the abdomen the mastoid cells are to the cranial cavity, the point of least resistance, and the easiest and safest to relieve when involved pathologically. Cases of mastoiditis in which the drum membrane and middle-ear cavity show little evidence of disease, and frequent anatomical irregularities, give rise to misleading symptoms.

Treatment of Acute Mastoid Disease

DR. LAMM S. GIVENS, Cynthiana: The two most important points in the management of acute mastoid disease that have not already been emphasized appear to be transillumination and examination of the pus for bone débris. Each of these has been written on, but neither has received the attention that it deserves. Examination of the mastoid by transillumination is based on the fact, which can be easily demonstrated, that the healthy normal mastoid will transmit light, while a mastoid filled with pus or granulation tissue will obstruct the passage of light. In the acute cases which hang on for a considerable time, and in the subacute cases it is desirable to know, so far as possible, the extent of the pathologic changes within the mastoid.

If the bony partitions between the mastoid cells are broken down, bone débris will be found in the pus. When bone débris is found it is positive evidence that an operation should be performed. Looking on mastoiditis as a preventable disease, however, prevention is the thing to be aimed at by those who have the opportunity to institute such measures.

Fat Embolism

DR. W. H. MACCRACKEN, Louisville: Fat embolism is a condition that until recently has received little attention at the hands of the medical profession. The phenomenon is probably exceedingly rare, but doubtless occurs both as a result of accidental injuries and as a mishap of the operating room. It should always be remembered that fat as it exists at body temperature is a liquid, capable of flowing through any channel which may be opened to it and only solidifying when cooled by exposure. This being true, it readily follows that any accident involving the rupture or the cutting of a large vein, especially a vein located near the surface of the body, may be followed by the entrance of a considerable quantity of liquid fat into the blood vessel. This fat will, of course, be carried at once to the right side of the heart and thence enter the pulmonary circulation. Fat and blood will not mix; hence it follows that during the time that this fat is passing the capillaries of the lungs the blood must remain partially or completely unaërated, thus being deprived of oxygen and rendered incapable of ridding itself of carbon dioxid. Much remains to be done in the way of investigation along this line, but enough has already been accomplished to show that this accident may account for some of the sudden fatalities following comminuted fractures, and for some of the deaths on the operating table which in the past have been imputed to the carlessness of the anesthetists.

Local Versus General Anesthesia in Anorectal Surgery

DR. S. J. GANT, New York: 1. Time should not be wasted in attempts to build up patients suffering from rectal diseases before operation because their run-down condition is usually due to their local ailment and will not improve until it is corrected. 2. Elaborate preparations of patients for rectal operations by purgation and colonic flushings are undesirable because they liquefy the feces and fill the colon with water which constantly dribbles over the field of operation. 3. It is much better to let the patient alone until one hour previous to operation and then give him a low water or medicated enema which will cleanse the rectum and be entirely expelled. 4. When operating for hemorrhoids, fissure, fistula, polyps and many other rectal affections, there is practically no danger from infection, consequently patient should not be given the unnecessary pain caused by plugging the rectum with antiseptic gauze or the annoyance induced by outgrowing hairs when the parts have been shaved. 5. More than 80 per cent. of all diseases of the anorectal region can be radically and painlessly operated on under local anesthesia at the office, the home of the patient or hospital. 6. The common practice of administering gas, ether, chloroform and other general anesthetics is unjustifiable in this class of cases because nearly all these ailments can be operated on within five or eight minutes under regional anesthesia. 7. Operations for fissure, hemorrhoids, ulcers, polyps, papillæ, simple fistula, etc., can be quickly performed under anesthesia produced by cocain, eucain, sterile water, or any other of the recognized local anesthetics if the surgeon knows how to use them properly. 8. When the operator's technic is perfect, the operation will cause no pain and the result will be good, but, on the other hand, if his technic is bad he will cause the patient a great deal of suffering during the operation and will not cure him. 9. In this class of work the surgeon who employs the fewest instruments and the most simplified technic accomplishes the most satisfactory results; in fact, a great deal depends on the manner in which the infiltration is made. 10. To obtain desirable results under both local and general anesthesia, it is necessary to do a good operation and to carry out carefully the postoperative treatment. 11. General should be substituted for local anesthesia, in cases of fissure, hemorrhoids, ulcer, fistula, etc., when complicated by some other serious rectal affection, for very deep and extensive operations, and whenever there is any doubt as to the diagnosis or as to the extent of the cutting necessary to be done. 12. The almost universal success which has followed the employment of local anesthetics in operations in and about the rectum should encourage the general surgeon to employ regional anesthesia in other parts of the body very much more frequently than he has in the past.

(*To be continued*)

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES

Eighteenth Annual Meeting, held in Washington, D. C., Oct. 5-8, 1909

The President, SURG.-GEN. PRESLEY M. RIXEY, U. S. Navy, in the Chair

Business Session

At the business session, Tuesday, the reports of officers were presented. The chairman of the Committee on Necrology reported that since the last meeting thirteen members had died, of whom four were officers of the Medical Corps of the army and three each officers of the United States Public Health and Marine-Hospital Service of the United States Volunteers in either the Civil or Spanish-American wars, and of the National Guard. The report was, as usual, adopted by a standing vote. The nominating committee reported the nominations for office and place of meeting next year, which have already been noted in THE JOURNAL for October 16, page 1300.

Public Meeting

On Tuesday evening the first open session was held. Hon. Hannis Taylor of Alabama, in the opening address, made an eloquent plea for peace, detailing the gigantic preparations for war which are being made at this time the world over. It now looks as if nations might be falling back on the old system of armed neutrality, the essence of which was an armed compact through which peace could be conserved.

Henry B. F. McFarland, District Commissioner, then welcomed the association on behalf of the city of Washington, and Dr. Samuel S. Adams delivered the address of welcome on behalf of the medical fraternity of the District.

President's Address

REAR ADMIRAL PRESLEY M. RIXEY, U. S. Navy, after laudatory remarks regarding the work of the association, defined its interests as embracing the physical efficiency of military and naval organizations, the efficiency of the medical profession as regards each of its manifold activities in military spheres of activity, the honor of nations, and the welfare of mankind. No organization is more widely representative of the vital concerns of the human race, and owing to its intimate identification with the great physical emergencies of life and nations, the deliberations of the organization should be fruitful. The success of the Japanese during the recent war with Russia in preventing disease in their army must be attributed in great degree to their acceptance of the fact that their medical officers possessed superior knowledge of sanitary matters, and that, having employed their surgeons as specialists in their particular line, they accepted their advice, gave them the men, material and money to carry out their suggestions, and held them responsible for the results. He also suggested Washington as the permanent meeting place of the association on account of the international character of the organization and because Washington is the military headquarters of the United States.

Foreign Delegates

SURGEON WILLIAM H. BELL, U. S. Navy, assistant secretary, then presented the insignia of the association to the following delegates from foreign counties: Great Britain, Sir Alfred Keogh, director-general R. A. M. C., and James Porter, C. B., director-general of the Medical Service of the Royal Navy; Guatemala, Señor Don Dr. Louis Toledo Horrarto, envoy extraordinary; Honduras, Señor Don Dr. Louis Lazo, envoy extraordinary; Italy, Claudio Sforza, surgeon-major-general; Japan, Bunzo Tomatsuri, surgeon-inspector of the navy; Mexico, Lieut.-Col. Alejandro Ross, School of Medico-Military Practice; Canada, Lieut.-Col. G. C. Jones, G.G.H.S., director-general of the medical service; France, Major M. Le Routte, surgeon sanitary department; China, Tang Wen-Yuan, director Army Medical School, Surgeon Hsu Ying-Yang; Netherlands, Dr. Bujo, fleet surgeon; Germany, Dr. Presuhn, fleet surgeon. Sir Alfred Keogh responded on behalf of the foreign delegates.

Military Organization and Administration

CAPTAIN HAROLD W. JONES, M.C., U. S. A., arraigned the lack of uniformity in organization of the medical corps of the various states. In many states politics takes an active part in appointments, examinations are not held or are farcical, the annual tours of duty are junketing trips, and the field service a joke. He urged the medical officers of the National Guard to insist on proper qualifications for entrance, a severe examination, and systematic training thereafter in camps of instruction and by lectures and demonstrations, especially in the line of preventive medicine. The benefits of camps of instruction lay in the exercise, open-air life, solution of practical problems in sanitation, and especially in the interchange of ideas between the professional and the amateur soldiers.

COL. VALERY HAVARD, M.C., U. S. A., emphasized the necessity of concerted action in obtaining autonomy for the Medical Corps, including transportation, so that in case of need, the medical department could move its own stores, instead of having to depend on an already overcrowded quartermaster department which proved unable to do all that was asked of it during the stress of the Spanish-American War, with the result that much illness and mortality occurred which might have been obviated had the Medical Corps been autonomous. The entire medico-military personnel should take up this more important matter.

MAJOR GEORGE S. CRAMPTON, M.C., N. G. Pa., declared that the medical officer uneducated as a soldier is useless in time of emergency. The field training is essential as is also the technical experience.

SIR ALFRED KEOGH, R.A.M.C., maintained that while it was the province of the military surgeon to act in a humanitarian capacity, his first object should be to increase the efficiency of the force of his commanding officer. Military surgeons should be more strict in returning to their homes soldiers physically unfit for campaigns. The carrying out of this policy would greatly reduce the wastage of armies through disease in time of war.

CAPT. WILLIAM S. ROBERTS, M.C., U. S. A., advocated a more thorough training of medical officers. He believed that with cavalry an ambulance should be assigned to each squadron. As a matter of experience, he advised the carrying of spare parts of the ambulance, particularly poles, which are liable to be broken in going over rough country. As the cavalry service is especially arduous, hospital corps men should be thoroughly instructed in equitation, and should have good horses assigned them, not the castoffs of the troops.

COL. WINSLOW ANDERSON, Surgeon-General N. G. California, praised the camp of instruction at the Presidio of San Francisco and outlined the work done by the medical officers of the guard. The instruction and demonstrations by the officers of the Medical Corps of the army were full and explicit, and great benefit was derived by the National Guard officers. The chief good seemed to be in line of administration and "paper" work, hygiene and sanitation. He spoke strongly on the need of a complete field equipment for the state troops.

DR. JOHANN STEINER, Imperial and Royal War Minister, in his paper, which was read by the secretary, detailed the new regulations for ambulance trains in the Austro-Hungarian service. The hospital train is made up of twenty-six cars, and constitutes a complete hospital, commanded by a captain, with personnel of a lieutenant, sergeant and thirty-four privates. Two ambulance trains, each having accommodations for 364 patients, including sixty-four recumbents, are provided for each army corps in charge of a medical officer, or line officer, or local practitioner.

BRIG.-GEN. CHARLES C. FOSTER, Surgeon-General, of Massachusetts, considered an examination board as a substitute for the correspondence course advocated for the training of national guard medical officers. The board should examine candidates with care, using questions which cover the main ground of the duties and responsibilities of medical officers. The members of the board should then mark each paper independently, and the final mark should be the average of the individual findings.

Supplies and Equipment

MAJOR CARL R. DARNELL, M.C., U. S. A., in considering the question of field medical supplies for the organized militia, stated that the Medical Supply Depot is prepared to furnish full equipment as detailed as the manual of the medical department to every militia organization which makes proper requisition. The state should have one fully-equipped field hospital for every 2,500 men. Requisitions should be made through official channels, and it would be well for each state to have a medical supply depot with a medical officer in charge who would make issues of equipment and supplies on receipt of proper requisitions.

COL. VALERY HAVARD, M.C., U. S. A., reported progress in the work of the War Department in all questions of organization, including the organization of medical depots. In addition to the regulation ambulances, two-wheeled ambulances have been devised. One great difficulty encountered is the distribution of supplies. In the landing of supplies in Cuba the medical department was greatly hampered because it did not have control of its own transportation. The agencies for the distribution of knowledge to the organized militia are the association camps of instruction and the various medical schools of the army and navy. In his opinion, it was only a question of time until correspondence schools would be established by the War Department in the Department of Militia Affairs.

LIEUT.-COL. ALEJANDRO ROSS, C.M.M.M., described a new system of diagnosis tallies for wounded in war. His plan calls for markings on the diagnosis tags to indicate the severity of the wound, whether or not dressed, etc. For instance, a tag bearing a circle would mean a slight wound; a triangle would indicate a severe wound; a square a very severe wound; a horizontal line, that a provisional dressing had been applied; two parallel horizontal lines, that a permanent dressing had been made; a perpendicular line would show that the patient had a wound requiring operation; two parallel perpendicular lines, that the operation had already been performed; a figure of eight on its side, that further operative interference was required, etc. These signs in combination could be made to give practically the entire history of the patient.

LIEUT.-COL. LOUIS A. LA GARDE, M.C., U. S. A., made a report for the committee appointed several years ago to make exhaustive tests as to the stopping power and shock effects of twelve different kinds of bullets from various pistols and revolvers, illustrated by charts. This was to have been further illustrated by lantern slides, but the latter graphic portion of the reports unfortunately could not be given owing to the impossibility of darkening the room.

(To be continued)

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Professional Compensation for Public Services

The *British Medical Journal* discusses editorially, October 23, the question of adequate remuneration by public authorities for medical services, which is at present receiving much consideration in England. A number of specific instances are cited to show the evident value placed on medical services. The Barry Hospital in Wales was established for the benefit of working men of the docks, and in 1900 was taken over by the Barry Urban District Council. The district contains a population of about 33,000, almost entirely composed of the workmen of the Barry docks, their families and the tradesmen who supply their wants. The docks employ between 8,000 and 10,000 men. Originally, all the physicians of Barry were members of the staff of the hospital. Questions have recently arisen regarding the makeup of the staff. The matter was referred by the Cardiff Division of the British Medical Association to the hospital's committee, which instructed the Medical Secretary to investigate the matter. As result

of the investigation, the committee recommended that the hospital should be open to each medical practitioner in the district who had been in practice there for six months, physicians to serve in rotation and to be paid £20 ($100) for three months' service, the local profession taking the position that while they were perfectly willing to give their services free in the case of a voluntary hospital (that is, one supported by voluntary contributions), they did not consider that they should be asked to do so in the case of a hospital entirely supported by the rates (taxes), as was the Barry Hospital. This proposition, involving the payment of about $30 a month to each physician for the time actually spent in service, was rejected by the district council solely on account of the compensation feature.

The Aberystwyth Board of Guardians recently took exception to a bill for £1 2s. 6d. ($5.44) sent in by a local physician for the examination of nine imbeciles. At the same meeting, objection was made to a bill of £1 1s. ($5.08), rendered for administering chloroform to a patient in the hospital, on the ground that the board had recently passed a resolution to pay only 10s. 6d. ($2.54) for such services. The surgeon in charge asked what would be his position in case he were not able to secure the assistance of a medical man to administer chloroform on these terms, as he said he would not take the responsibility of administering the chloroform and he did not know a medical man who would do it for less than a guinea ($5.08), and that it was unreasonable to expect him to pay a guinea for assistance when he was only paid 15 shillings ($3.75) himself. The board declined to pay more than this amount.

The Salford Board of Guardians refused to grant any of the requests made by the Salford Division of the British Medical Association, or even to negotiate with them. Accordingly, a warning notice has been published in the *British Medical Journal*, and, as a result, the guardians have been unable to obtain any medical officer for Hope Hospital. The positions of senior and junior resident medical officer are now vacant, and the deadlock has lasted since the end of July, due entirely to the refusal of the guardians to discuss the points at issue, which involve the status of the senior medical officer and the salary which he should be paid. The Salford Division of the British Medical Association has taken the position that the question of what is a fair salary to accept is one for the profession alone to decide, and that the salary offered is "miserably inadequate."

The recent action of the post-office department is also of interest in this connection. Under the superannuation act, which became a law on September 20, certain postal officers are entitled to free medical attendance, for which services a fee of 3s. 6d. (84 cents) has been offered to the postal medical officers. The physicians holding appointments under the post-office department claim that this is an imposition of extra work for a miserably inadequate fee, while the department apparently takes great credit to itself for its generosity in offering any fee at all. In the case of postal officers not entitled to free medical services, the department has announced that medical men would be entitled to a fee of 5s. ($1.25) for physical examination, payable by the postal officer himself, regardless of how high the officer's salary might be. As the salary of the patient might in some cases run as high as $5,000 a year, the compensation to physicians is obviously out of proportion to the value of the services. To the objection of the postal medical officers, the department replied that if they would not do the work for five shillings it would be given "to other physicians who would be glad to do it." As the *British Medical Journal* says: "This is nothing more nor less than an attempt by a government department to punish the medical officers if they will not allow themselves to be exploited." The position taken by the joint committee of the Manchester and Salford divisions of the British Medical Association is that the proposal of the post-office department amounts to a decision that $1.25 is quite enough for an insurance examination, even for a large amount, and that it is an invitation to general practitioners to "undersell" the postal medical officers in case they demand more.

Another case of the same tendency is reported, the Council of the Metropolitan Borough of Wandsworth having sent an official communication to a member of South-West London Medical Society proposing the following fees for professional services rendered to employees of the council who may claim sick allowances in case of accident or illness: services rendered at the physician's office 1s. (24 cents) for each examination and report; services rendered at the employee's home, 2s. 6d. (60 cents) for each examination and report. The member of the society to whom this proposition was made declined it, saying: "I can only regret that the council have such a contemptible opinion of the value of the medical man's time."

Commenting on these recent instances of the estimate placed by public officials on the value of professional services, the *British Medical Journal* says, "It is worth noting that in two of the cases, the medical services are required, not in the interest of suffering individuals, but purely as a matter of actuarial business, to guard the state or the local authority either from malingering or fraud. The most temperate protests (on the part of the medical men) are met by state departments and municipalities alike by what practically amounts to the answer, 'Take it or leave it; if you don't take it we shall very soon find other doctors who will.' It is disagreeable and somewhat unfortunate that difficulties which arise between the medical profession and the state or local authorities should so often turn on questions of money. We are told that we are a noble and generous profession, existing for the good of mankind and that we endanger our reputation for nobility of character and generosity of action by insisting on higher fees and salaries than are offered. But this is not common sense. The members of the medical profession have to earn their living like other folks and while they never fail to respond to the call of charity, they are not only justified in rejecting, but as good citizens bound to repel, proposals which are contrary to sound economic principles. It would seem sometimes as though public charities acted on the assumption that medicine was already endowed by the state and its practitioners in receipt of retaining salaries to which it was only necessary to add some trifling honorarium when new duties were imposed. The truth, of course, is that, save in the cause of charity, medical men are entitled to claim the full value of the services they render. Business men may consider it good business to set as low a pecuniary value on these services as they think will be accepted, trusting to competition to keep the price down and the quality up. But there is a limit to legitimate competition: either the quality will decline or the worker will not receive a living wage. The limit has been reached and is frequently overpassed in the dealings of public authorities with the medical profession. The only effectual remedy for this state of things is combination and union within the profession and this can be attained only through the British Medical Association which has the will and possesses the necessary machinery."

The comments of the *Journal* are eminently pertinent and timely. Public positions and services rendered the state or the municipality by members of the legal profession, civil engineers and others, have always been recognized as entitled to the same or often higher compensation than that paid by the private individual for the same services. This is shown by the eagerness with which such positions as city or state's attorney, attorney-general, etc., are sought by lawyers, many of whom receive for their services much higher compensation than they could secure in private practice, or at least than they would receive for the same services rendered to individuals. Purely through the carelessness and altruism of the medical profession, however, the idea has been allowed to gain ground in the public mind that medical services rendered to the town, county or state are given gratuitously or are to be paid for at an absurdly low rate. Physicians on the attending staffs of practically all our public hospitals serve without pay. As was shown in last week's issue, the burden of professional charity imposed on the medical profession in our large cities is about fifty times greater than that imposed on other classes of society. In addition to this enormous burden, physicians are asked to deal with the state, county and city when they desire medical services as though they were dealing with pauper patients, and to fur-

nish needed medical services either at the expense of the profession or for an amount of compensation that is utterly out of proportion to the value of the services rendered.

This question, which has been widely discussed and agitated in England, should be taken up dispassionately and thoroughly by the medical profession in the United States in order that the necessary data may be secured on which to base arguments and claims for proper compensation. Owing to the growing importance of preventive medicine and state sanitation the importance of this question will be vastly increased in the next few years rather than diminished. The time is coming when prevention and state medicine will constitute the bulk of professional work, and it behooves us to see that compensation for such work be ample enough to make the profession self-respecting and free from material want.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Third Month—Third Weekly Meeting

SMALLPOX, VARIOLA

ETIOLOGY: Contagiousness, age, sex, race, season. Variations in epidemics.

BACTERIOLOGY: Work of Guarnieri, of Councilman.

PATHOLOGY: Microscopic changes occurring in lesions.

SYMPTOMS: A. Variola vera; (a) discrete, (b) confluent. Period of incubation, length, variations. Invasion, symptoms, prodromal rashes. Eruption in (a) discrete, (b) confluent form. Desiccation, desquamation.

B. Variola hemorrhagica; (a) purpura variolosa, (b) variolosa pustulosa hemorrhagica. Symptoms and lesions of each form.

C. Varioloid. Symptoms, lesions.

DIAGNOSIS: Early, differentiation from meningitis, typhoid, influenza, scarlet fever, etc. Eruption, from measles, scarlet fever, varicella, syphilis, glanders, drug eruption.

VACCINIA: History, nature of vaccinia.

VACCINATION: Preparation of lymph. Technic of vaccination. Normal vaccination. Irregular vaccination: A. Local variations. B. Generalized vaccinia, (a) spontaneous generalized vaccinia; (b) from autointoxication. C. Complications, (a) local, erythema, impetigo contagiosa, erysipelas, ulceration, gangrene, cellulitis, etc.; (b) constitutional, purpura, urticaria, syphilis, leprosy, tuberculosis.

Marriages

OSCAR L. LONG, M.D., to Miss Grace McFrederick, both of Baltimore, October 27.

ROBERT E. STEVENS, M.D., to Miss Mabel Healey, both of Rochelle, Ill., October 20.

CHARLES E. BURKE, M.D., to Miss Zella Lynch, both of Atlantic, Iowa, October 27.

E. BARBOUR PENDLETON, M.D., Cuckoo, Va., to Miss Virginia Hunter Goodman, October 23.

H. FRANCES BARTLETT, M.D., Philadelphia, and William Tyson of Pittsburg, October 27.

JOHN FRANK SIMISON, M.D., Romney, Ind., to Miss Olive L. Neal of Aylmer, Ont., October 24.

EVALD OLSON, M.D., to Miss Laura Lillian Sellards, both of Burlingame, Kan., September 22.

HARRY DEWITT FAST, M.D., to Miss Luella Adaline Miller, both of Mackinaw, Ill., October 27.

EMIL H. HERMANN, M.D., Highland, Ill., to Miss Bertha Hermann of Fillmore, Ill., October 31.

PETER MCLEAN, M.D., Laurinburg, N. C., to Miss Alice Lee Elliott of Fayetteville, N. C., recently.

WALTER WILSON HOUSE, M.D., Thompsonville, Ill., to Miss Nona Steele of DeSoto, Ill., October 24.

ANTONIO FANONI, M.D., New York City, to Miss Emily Stanley Merill of Brooklyn, October 28.

ALLEN GALPIN RICE, M.D., Springfield, Mass., to Miss Mary Merrihew of Newton, Mass., October 27.

AARON P. WOLEVER, M.D., Willisville, Ill., to Miss Portia Catlett, at Springfield, Ill., September 21.

LLOYD E. GOODPASTURE, M.D., Thayer, Ill., to Miss Frances Ann Carter of Chesterfield, Ill., October 14.

NORMAN O. DALAGER, M.D., Tolley, N. Dak., to Miss Lena Othelia Nelson of Grano, N. Dak., October 21.

WILLIAM LIKELY SIMPSON, M.D., Memphis, Tenn., to Miss Lenora A. Balderson of Mount Ayr, Iowa, October 27.

JOSEPH HERSEY PRATT, M.D., Boston, Mass., to Miss Rosamond Means Thomson of Andover, Mass., October 23.

DARIUS CLEVELAND ABSHER, M.D., North Wilkesboro, N. C., to Miss Bethania Ashby of Mount Airy, N. C., October 27.

JOHN ROBERT PADDISON, M.D., Oak Ridge, N. C., to Miss Zora Sapp of Kernersville, N. C., at Greensboro, N. C., October 28.

Deaths

Charles Henry Cobb, M.D. Harvard Medical School, Boston, 1881; a member of the Massachusetts Medical Society; professor of materia medica and therapeutics and dean of the faculty of the College of Physicians and Surgeons, Boston; died at his home in Boston, October 31, from acute peritonitis, aged 65. The faculty of the college, at a special meeting, adopted resolutions eulogizing Dr. Cobb as a beloved and faithful member of the faculty, a true disciple of medicine, a competent instructor and a sincere devoted friend.

Benjamin Harrison Kidder, M.D. Long Island College Hospital, Brooklyn, N. Y., 1861; of Malden, Mass.; rear admiral U. S. Navy, retired, on attaining the age of 62 years, Jan. 23, 1898, after fourteen years and three months' sea service and seventeen years and seven months' shore or other duty; at one time president of the medical examining board of the Navy; died at his summer home in Edgartown, Mass., October 26, aged 73.

Robert L. Caruthers White, M.D. Jefferson Medical College, Philadelphia, 1868; a Confederate veteran; for several years editor and owner of the *Lebanon (Tenn.) Herald*; for nineteen years Supreme Keeper of the Records and Seal of the order of Knights of Pythias; a journalist of more than local reputation and a literary man of superior attainments; died at his home in Nashville, October 29, aged 65.

Warren David Springer, M.D. Trinity Medical College, Toronto, 1889; a member of the American Medical Association; secretary of the Idaho State Board of Health; major-surgeon of the First Idaho Infantry U. S. V. in the Spanish-American War, and for a year and a half on duty in the Philippine Islands; died at his home in Boise, October 19, from angina pectoris, aged 44.

George Robert Harris, M.D. College of Physicians and Surgeons, New York City, 1885; a member of the Connecticut State Medical Society; surgeon to the Backus Hospital, Norwich, Conn.; local surgeon to the New York, New Haven and Hartford Railroad; secretary of the local pension board; medical examiner for Norwich; died at his home, October 20, from cerebral hemorrhage, aged 44.

William Gilbert Terwilliger, M.D. College of Physicians and Surgeons, New York City, 1894; of Brooklyn, N. Y.; a member of the Medical Society of the State of New York; was instantly killed in a collision between the automobile in which he was riding and a train of the Long Island Railroad, near Long Beach, N. Y., October 30, aged 38.

Cleophas Joseph Ducote, M.D. Tulane University, New Orleans, 1875; a member of the American Medical Association; for many years a member of the Board of Supervisors of the State University; once president of the Louisiana State Medical Society and State Board of Health; twice state senator; died at his home in Cottonport, October 26, from cerebral hemorrhage, aged 59.

Hugh France, M.D. Bellevue Hospital Medical College, New York City, 1892; of Wallace, Idaho; a member of the American Medical Association; coroner and health officer of Shoshone county in 1899; once sheriff of the county and provost marshal and state senator; died in Seattle, October 26, from cancer of the liver, aged 42.

Elmore Palmer, M.D. University of Michigan, Ann Arbor, 1864; formerly president of the Western New York Medical Society; a medical cadet, serving with the Twenty-ninth Michigan Volunteer Infantry, and afterward as a surgeon

during the Civil War; died at his home in Buffalo, N. Y., October 23, aged 69.

William E. Scobey, M.D. Medical College of Ohio, Cincinnati, 1866; contract surgeon in the army and afterward captain and assistant surgeon, and assigned to duty with the Forty-fifth Kentucky Volunteer Infantry during the Civil War; died at his home in Kankakee, Ill., October 24, from nervous breakdown, aged 68.

George Watt, M.D. College of Physicians and Surgeons, San Francisco, 1903; a member of the American Medical Association; and physician of Glenn county, Cal.; died at his home in Willows, October 24, from injuries received in an automobile accident the day before, aged 44.

Leyander John Young, M.D. University of Vermont, Burlington, 1877; a member of the American Medical Association; chairman of the board of health of Haverhill, Mass.; died suddenly October 27, from cerebral hemorrhage, while making a professional call, aged 59.

Samuel R. Elliott, M.D. New York Medical College, New York City, 1856; surgeon of the Fifth New York Volunteer Heavy Artillery in the Civil War; well known as a magazine writer; died at his home in Livingston, Staten Island, New York, October 26, aged 73.

Edward William Thomas, M.D. Cooper Medical College, San Francisco, 1892; a member of the American Medical Association; founder and superintendent of the Thomas Sanatorium, San Francisco; died October 21, six days after an operation for appendicitis, aged 47.

Gregg Henderson, M.D. New York Homeopathic Medical College, New York City, 1866; a charter member of the Ontario Medical Council, and in 1897 its president; for thirty-four years medical health officer of Strathroy; died at his home, August 25, aged 72.

Jesse Eugene Cook, M.D. Dartmouth Medical School, Hanover, N. H., 1896; representative in the legislature from Waldo county, Maine, and a member of the staff of Waldo County Hospital; died at his home in Unity, October 15, from tuberculosis, aged 40.

Thomas L. Banks, M.D. University of Pennsylvania, Philadelphia, 1854; one of the oldest practitioners of North Carolina, and formerly state senator; died at his home in lower Wake county, near Raleigh, October 26, from pleurisy.

John Albert Lamberson (license, Ore., 1891); a practitioner of Lebanon, Ore., for twenty-seven years; a member of the Oregon State Medical Association; died at his home, October 13, from cerebral hemorrhage, aged 55.

J. P. Minus, M.D. Medical College of the State of South Carolina, Charleston; a veteran of the Civil War; afterward superintendent of education of Dorchester county, S. C.; died at his home in St. George, October 11, aged 70.

John Meador Goldsmith, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1900; of Atlanta, Ga.; was found dead in a room in the Marion Hotel, Atlanta, October 26, from hemorrhage of the lungs, aged 33.

George Peter Rasbach, M.D. Bellevue Hospital Medical College, New York City, 1876; house physician for many years to the Old Ladies Home, Mohawk, N. Y.; died at his home in that place, October 20, aged 57.

August Gronerud, M.D. Kentucky School of Medicine, Louisville, 1897; of Bronson, Minn.; died in that place, October 21, from the effects of an overdose of morphin, of which he is said to have been an habitué.

Edward Pitt Marston, M.D. Dartmouth Medical School, Hanover, N. H., 1884; a member of the Maine Medical Association; died at his home in Monmouth, October 27, from cerebral hemorrhage, aged 47.

John Trumbull Metcalfe, M.D. University of Pennsylvania, Philadelphia, 1843; first president of the New Haven Dental Society; died at his home in Brooklyn, N. Y., October 29, from senile debility, aged 91.

Walter Melville Barrett, M.D. Missouri Medical College, St. Louis, 1880; a member of the Medical Society of the State of California; died at his home in Redwood City, October 26, from pneumonia, aged 53.

Nicholas L. Hornsby, M.D. Transylvania University, Lexington, Ky., 1842; said to have been the oldest resident of Carondelet, St. Louis; died at his home, October 26, from senile debility, aged 87.

William John Hamilton, M.D. Cleveland University of Medicine and Surgery, 1873; died at his home in Dunbar, Pa., October 26, from pneumonia complicating typhoid fever, aged 62.

Griffith W. D. Patterson, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1887; a veteran of the Civil War; died at his home in Atlanta, Ga., October 23, aged 72.

William Thompson, M.D. University of Nashville, 1856; a surgeon in the Confederate Service during the Civil War; died at his home in Little Rock, Ark., October 26, aged 79.

Omer G. W. Adams (license, Iowa, years of practice); an eclectic practitioner of Dubuque, Iowa; died in a hospital in Chicago, October 12, from acute bronchitis, aged 67.

Clarence Nichols, M.D. Hahnemann Medical College, Philadelphia, 1892; formerly of Baltimore; was drowned while oystering near Cambridge, Md., October 27, aged 35.

George B. Dowling, M.D. New York Homeopathic Medical College, 1886; of Tarrytown, N. Y.; died at the Manhattan Square Hotel, New York City, October 30, aged 42.

David S. Sampsel, M.D. Jefferson Medical College, Philadelphia, 1874; died at his home in Ashland, Ohio, October 29, from cerebral hemorrhage, aged 61.

Edward Playter, M.B. University of Toronto, 1860; formerly of Ottawa; died at his home in Chester, Ont., recently, from heart disease, aged 73.

Josiah Finlay Cadmus, M.D. College of Physicians and Surgeons, New York City, 1848; died at his home in New York City, October 28, aged 90.

Joseph K. Julian, M.D. Indiana Medical College, Indianapolis, 1872; died at his home in Covington, Okla., October 19, aged 62.

Hiram Hemstreet, M.D. Geneva (N. Y.) Medical College, 1850; died at his home in Canastota, N. Y., October 23, aged 86.

Book Notices

CLINICAL LECTURES ON NEURASTHENIA. By Thomas Dixon Savill, M.D., Physician to the West End Hospital for Diseases of the Nervous System, Welbeck Street, London. Cloth. Pp. 226. Fourth Edition. Price, $2.00 net. New York: William Wood & Co., 1908.

LECTURES ON HYSTERIA AND ALLIED VASOMOTOR CONDITIONS. By Thomas Dixon Savill, M.D., Physician to the West End Hospital for Diseases of the Nervous System, Welbeck Street, London. Cloth. Pp. 262, with 21 illustrations. Price, $2.50 net. New York: William Wood & Co., 1909.

Notwithstanding the fact that one of these books is in its fourth edition, we note the books together, because hysteria and neurasthenia are not so clearly differentiated in the mind of the average practitioner as they should be. And we fear that Savill's lectures will not help much toward making the differentiation any clearer; for, in building up the hypothetical pathology of both diseases, he lays so much stress on vasomotor manifestations and analogies, and attributes these so largely to an underlying toxemia that one is forced to ask wherein, after all, hysteria and neurasthenia differ. The only difference Savill seems to make is that hysteria is an angioneurotic (chiefly splanchnic) paroxysmal trouble, whereas neurasthenia is an angiotoxemic (chiefly gastrointestinal) nonparoxysmal affection. The difficulty with this distinction, however, is that clinically it is not so apparent as it theoretically promises to be. And therein lies the main objection to these books. They fail signally to tell us how to distinguish at the bedside between hysteria and neurasthenia, the symptoms of each being so interchangeable; while they assume a pathology for both that is founded, particularly in hysteria, on a loose, unstable and unimportant symptomatic basis. Indeed, many of the illustrative cases reported by Savill as neurasthenia would be diagnosed by neurologists of the modern school as hysteria, and *vice versa*.

We believe that the general consensus of opinion to-day is that neurasthenia is a disturbance of the primary physiologic functions of the ultimate elements of the entire nervous apparatus, such disturbance being initiated and continued by toxemia, malnutrition and traumatism, as well as overwork; but that hysteria is a pure psychosis, a disease of the personality depending on a faulty activity among the secondary or interrelated functions of the nervous elements, and accompanied by a host of subsidiary manifestations in all of the organs of the body. This is a sharp distinction and seems to be well supported by recent observations made in the physiologic and psychologic laboratories, as well as in the clinic; but Savill does not recognize it. Of neurasthenia he says (p. 66,

"Lectures on Neurasthenia"): "All the symptoms point to an irritability and a weakness of the nervous system, an instability combined with a lack of endurance. Now, the two elements of which all nerve structures consist are cells and fibers, and the defect would seem to be more in the cells, whose function is to initiate and to act as centers of reflex action than in the fibers whose function is to conduct." This definition, faulty as it is in neurophysiology, is quoted for comparison with that on hysteria, which Savill says (p. 187, "Lectures on Hysteria") "consists of an instability, or undue irritability of all the nervous and reflex centers throughout the body, and particularly those of the vasomotor system; that hysterical paralysis or tremor and many other hysterical phenomena hitherto unexplained are produced by vascular changes in the nervous system; and that the essential defect in the nervous system on which hysteria depends, whatever it may be, is inborn and inherent—that is to say, the reflex centers in hysterical subjects are throughout life more unstable than those of other people." He says (ibid, p. 185): "My own conclusion as regards the pathology of hysteria is that a large proportion, probably nine-tenths, of hysterical symptoms, depend in the main on an instability of the vasomotor centers throughout the body and a want of coordination among these centers, associated with more or less emotional instability. And these factors are aggravated by toxemia or malnutrition." As to neurasthenia, we are told (pp. 67-68, "Lectures on Neurasthenia") that the "irritability and weakness of the nerve cells" are produced by "toxic blood states," "malnutrition," "fatigue or overfunctioning of the nervous system," and "emotional shock and traumatism," while behind these "there are four ways in which heredity as a predisposing cause of neurasthenia may, and does sometimes, act," thought it "does not seem to play so important a part here as it does in cases of hysteria" (p. 59). In a word, then, instead of being two distinct and dissimilar affections, hysteria and neurasthenia are the same, depending, respectively, merely on different degrees of heredity, toxemia, vasomotor disturbance and neural reflex irritability and instability. Such a conception of these two great maladies, especially hysteria, is not only antiquated ("I have taught the views herein expressed for twenty years, 1899 to 1909;" preface to the "Lectures on Hysteria"), but is woefully confusing and unscientific.

We do not recall having ever seen that besetting sin of the clinician, the argument by analogy, for which Savill pleads so elaborately and names "the method of analogy," pushed to a greater extreme. Not only does he base his entire pathology of hysteria and neurasthenia on imaginary internal vasomotor conditions, similar to the external flushings and pallors, but he even attributes the hemiplegias, the paraplegias, spasms, tremors, etc., observed in these functional troubles, to the same vasomotor processes which are known to give rise to the same phenomena in the organic. Indeed, he goes to the length of allying such toxangioneurotic conditions as erythromelalgia, acroparesthesia, sclerodactylia, "dead hands," Raynaud's disease, migraine, epilepsy and exophthalmic goiter to hysteria, because, forsooth, hysteria manifests vasomotor symptoms not wholly unlike those seen in these troubles; and he argues that this analogy and assumed close relationship between them all but proves the vasomotor nature of hysteria. This cutaneous argumentation concerning so well-recognized a psychosis as hysteria betrays in Dr. Savill less of the psychologist than of the "physician to the St. John's Hospital for Diseases of the Skin, London," (title page of "Lectures on Hysteria").

In like manner, Savill might have gone on with his "method of analogy," treacherous as logicians have long known it to be, and referred to the vasomotor disturbances that initiate all toxemic states, all inflammations and all traumatic abnormalities in the circulation, often occurring in non-hysterical as well as hysterical individuals, and then have drawn the all-comprehensive conclusion which the reader can scarcely escape drawing for himself after reading these books, that hysteria (and even to a lesser degree neurasthenia) is "a complex protean disorder, chiefly affecting the female sex, manifested by an immense variety of nervous, neuromuscular, neurovascular, sensory and other symptoms which may be referable to almost any organ or part of the body" ("Lectures on Hysteria," p. 5). To diagnose hysteria on such a clinical picture and conception of its pathology would be for us, we confess, a most "complex protean" problem. Frankly, we would not attempt it. We would adopt the easier and more common procedure of calling everything hysteria and a few of the less striking things neurasthenia, when we did not feel quite sure that they were something else. And that is about what these lectures encourage one to do.

In view of the unscientific conception of the nature of hysteria herein taught, it is not to be wondered at that the therapeutic measures recommended for the management of both hysteria and neurasthenia should be so elaborate, indefinite and multitudinous. The nervous irritability, the toxemia and the vasomotor disturbances are the guide-lines for the treatment of hysteria; while psychotherapy is made almost as prominent in the management of neurasthenia as any of the other measures.

Curious indeed is it to read (p. 196, "Lectures on Hysteria") in this day of scientific progress that when recommending valerian and asafetida for hysteria, it is to be remembered that "the taste of these drugs is not so unpleasant as their odor, which may be partially counteracted by holding the nose while swallowing the medicine."

Such books as these are to be strongly condemned, for, in addition to being incomplete and inadequate, they help to keep alive certain ancient, vague notions of the clinicians in regard to vasomotor and reflex phenomena long ago relinquished by the neuropathologists and physiologists; and they tend to encourage the general practitioner to remain satisfied with these notions instead of forcing him to learn what the more recent advances have been.

DIE CHEMISCHE ENTWICKLUNGSERREGUNG DES TIERISCHEN EIES (KÜNSTLICHE PARTHENOGENESE). Von Jacques Loeb, Professor der Physiologie an der University of California in Berkeley. Paper. Mit 56 Textfiguren. Price, 9 marks. Berlin: Julius Springer, 1909.

In this book the distinguished author and investigator gives the results of his investigations by physicochemical means of the problem of the development of the ovum. Believing that purely morphologic observations would not give us any real insight into the nature of the forces that cause the ovum to develop into the embryo, Loeb several years ago began his celebrated experiments on artificial parthenogenesis of the eggs of various sea animals, which have led to such important results and which have been continued uninterruptedly to the present time. He has discovered that the process of development may be started by a number of artificial agents, including solutions of electrolytes, changes in the osmotic pressure of the medium, fatty acids, and combinations in various ways of these and other means. At the same time attention has been directed to the nature of the mechanisms involved and suggestive sidelights thrown on pathologic processes, more particularly on all proliferation as illustrated by the growth of tumors and by inflammatory proliferations. In the introduction to this book Loeb gives a valuable summary of the progress of his investigations and the essential results so far obtained. In the body of the book the various lines and methods of investigation and the results of each with different kinds of eggs are given with adequate detail on the basis of and with constant reference to the original articles by himself, his pupils and other workers. Professor Loeb is a genial investigator and a clear and succinct writer. The present book is an invaluable contribution to our knowledge of one of the most important of all biologic processes, and it will be received with a warm welcome not only by zoologists but also by physiologists, pathologists and chemists as well as by all physicians who are interested in the study of basic biologic problems.

THE OPEN-AIR TREATMENT OF PULMONARY TUBERCULOSIS. By F. W. Burton-Fanning, M.D., F.R.C.P., Physician to the Norfolk and Norwich Hospital. Second Edition. Cloth. Pp. 184, with illustrations. Price, $1.50 net. New York: Paul B. Hoeber, 1909.

This book bears evidence of having grown out of the personal experience of a careful observer. It excels in the qualities of simplicity and directness. Dr. Fanning avoids the common fault of overvaluation in details of management and in attainable results and shows that the essentials of open-air treatment are not necessarily elaborate or expensive.

FURTHER ADVANCES IN PHYSIOLOGY. Edited by Leonard Hill, M.B., F.R.S. Cloth. Pp. 440, with illustrations. Price, $4.20. New York: Longmans, Green & Co., 1909.

This book represents the latest views of certain English physiologists on selected physiologic subjects. These views are the result of a study of the recent literature and of original work by the authors themselves on these problems. The book should be profitable especially to workers in physiology, as well as to all those who are interested in those problems in physiology which have particular application to clinical medicine or to pathology. Such a book gives a wider and more advanced view than could be obtained from ordinary text-books.

This volume follows "Recent Advances in Physiology" and is the second of a series of books on "Advances in Physiology." Mr. Hill expresses the hope that others of "More" and even "Further Advances in Physiology" may appear in the future. This second volume is similar to the first in the method of treating the subject-matter. The first dealt with problems of metabolism, secretion, and excretion, while the second deals with the problem of the circulation, respiration, the neuro-muscular system, and with vision.

The first chapter of the book, by Benjamin Moore, is on "The Equilibrium of Colloid and Crystalloid in Living Cells." Moore says that the conception that the living cell is a mass of fluid, in which are dissolved crystalloids and the whole surrounded by a semi-permeable membrane or cell wall, is a highly pernicious conception in biology. He believes that the various organic and inorganic constituents of living cells are held in loose chemical combination with the bioplasm or proteins, and asserts that this latter conception is necessary to explain the action of drugs.

Hill in his article on "The Vascular System and Blood-Pressure" discusses the difficulties of the mere filtration and osmosis theory for the secretion of urine, formation of lymph edema, etc. It might be questioned whether Hill gives sufficient credit to Guthrie, along with Carrel, in opening up the field of experimental blood-vessel surgery; as well as whether he gives a correct conception of the technic employed by these investigators. In "The Mechanism of Respiration in Man," Arthur Keith gives his own work on respiratory movements. He endeavors to show that many problems in respiration are to be explained on a purely mechanical basis. M. S. Pembrey contributes the article on "The Physiology of Muscular Work," in which he discusses the influences of muscular work on the heart, respiration, the exchange of materials in the blood, and on the glandular system, concluding with its relation to fatigue.

"Some Chapters on the Physiology of Nerve," by N. H. Alcock treat of the physiology of nerve activity, regeneration, growth, fatigue, and the behavior of excised nerves. "Recent Researches on the Critical Localization of the Cerebrum," by J. S. Bolton, give some new ideas concerning Broca's localization of aphasia.

Martin Flack contributes the article on the heart, Thomas Lewis on the pulse and the events of the human cardiac cycle, and M. Greenwood on visual adaptation and color vision. Each of the authors, except Moore, has appended a bibliography to his article.

MANUAL OF CHEMISTRY. By W. Simon, Ph.D., M.D., Professor of Chemistry in the College of Physicians and Surgeons of Baltimore, and Daniel Base, Ph.D., Professor of Chemistry in the Maryland College of Pharmacy. Ninth Edition. Cloth. Pp. 714, with 87 illustrations, 9 colored. Price, $3 net. Philadelphia: Lea and Febiger, 1909.

The ninth edition of this well-known manual preserves the plan and characteristics that have won for it the approval of teachers of chemistry. The most important changes are found in the considerations of physics and of theoretical chemistry and in the department of organic chemistry. The colored plates illustrating the various color reactions form a prominent and useful feature of this text-book.

MINOR AND OPERATIVE SURGERY INCLUDING BANDAGES. By Henry R. Wharton, M.D., Surgeon to the Presbyterian Hospital. Seventh Edition. Cloth. Pp. 657, with 555 illustrations. Price, $3.00. New York and Philadelphia: Lea & Febiger, 1909.

This very practical handbook has been brought well up to date in the present edition. Those who want a compact manual on the subject will find Wharton's book most satisfactory.

THE SEXUAL DISABILITIES OF MAN. By Arthur Cooper, Consulting Surgeon to the Westminster General Dispensary. Cloth. Pp. 184. Price, $1 net. New York: Paul B. Hoeber, 1909.

The subject is discussed under the two general heads, sterility and impotency. The chapter on sterility accurately describes the various pathologic changes producing this condition. The same may be said of the chapter on microscopy of semen, which is especially good in the description of the changes occurring in the spermatozoa themselves. Treatment is well considered, but a fuller description of vasoepididymostomy might have been given. The chapter on impotency begins with a short lucid description of sexual physiology, followed by the pathology, etiology and treatment. The advice has been given frequently to neurotic patients to take a long sea voyage. Dr. Cooper, very judiciously, we think, warns against such a course unless the patient be provided with proper companionship and supervision. Such patients tend to isolate themselves from society; they should be encouraged to mingle with others, thus getting their thoughts away from themselves. The book is scientific and happily free from all obscure and salacious references so common among writers on these subjects.

THE PRACTICAL MEDICINE SERIES. Under the General Editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School. Vol. VI., General Medicine, Edited by F. Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, M.D., Professor of Medicine, Illinois Postgraduate Medical School. Cloth. Pp. 345, with illustrations. Price, $1.50; or $10 the series of 10 volumes. Chicago: The Year-Book Publishers, 1909.

This volume deals with the general infections not treated in Volume 1 and with the diseases of the abdominal organs. The selection of material covers a wide range of medical literature. The abstracts are so arranged as to afford a systematic view of each subject. Much attention is given to the results of physiologic investigation. Comparatively little of the individual experience of the editors appears in this volume except as incorporated in the general remarks. Occasional errors have crept into the work. We note that the figure illustrating acute dilatation of the stomach is credited by a typographical error to Broadhurst instead of Borchardt. The book contains a good account of the year's advance.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS, with Especial Reference to the Application of Remedial Measures to Disease and Their Employment on a Rational Basis. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Thirteenth Edition. Cloth. Pp. 866, with 122 engravings and 4 colored plates. Price, $4.00. Philadelphia: Lea and Febiger, 1909.

This well-known text-book has been again revised to meet the needs of the practitioner, especially by incorporating information with regard to some of the newer remedies and some of the newer methods of therapy. The local use of magnesium sulphate for relief of pain and inflammation, the Lenhartz method of treating gastric ulcer and Murphy's treatment of peritonitis are examples of these newer methods. A number of illustrative prescriptions have been added. These modifications serve to keep the book well abreast of therapeutic progress.

PRACTICAL GYNECOLOGY. A Manual for Nurses and Students. By Netta Stewart, Sister in the Gynecologic Wards of the Royal Infirmary, Edinburgh, and James Young, M.B., F.R.C.S.E., Clinical Tutor in Surgery and Late Resident Gynecologist, Royal Infirmary, Edinburgh. Cloth. Pp. 327, with illustrations and plates. Price, $2.00, net. New York: William Wood & Co., 1909.

This volume (a second and enlarged edition) is prepared primarily for the use of nurses and medical students and describes the technic of examination and minor manipulations, such as irrigation, introduction of catheter and the preparation of the patient for operation. The book is well suited to its purpose and is abundantly illustrated.

TEXT-BOOK OF ANATOMY AND PHYSIOLOGY FOR NURSES. Compiled by Diana Clifford Kimber, Graduate of Bellevue Training School. Third Edition, Revised by Carolyn E. Gray, R. N., Assistant Superintendent, New York City Training School for Nurses. Cloth. Pp. 421, with illustrations. Price, $2.50. New York: The Macmillan Co., 1909.

This is one of the most practical text-books of the kind on the market. All superfluous matter is eliminated and merely the essential facts stated. The illustrations are good. Particularly valuable is the glossary at the end of the book, which not only defines a word, but gives the derivation as well.

Medicolegal

Admissibility of Testimony as to Result of Investigations Conducted by Several Persons

The Court of Appeals of Maryland says, in the case of Buck vs. Brady (73 Atl. R. 277), that a few days after a dog was killed its head was taken to the Pasteur Institute, in Baltimore, where certain tests were made to discover if the dog had been afflicted with rabies or not. Two physicians from the institute testified that from their investigation of the head, the animal had hydrophobia at the time it was killed. A motion was made to strike out that testimony on the ground that all the work of making the experiments at the institute was not done by one person, but that different parts of the process of investigation were performed by different members of the staff employed there, and that, therefore, the witnesses' opinions were based on hearsay. But the investigation appeared to have been scientifically and carefully made according to the established system in vogue at the institute. All the physicians who took part in the experiments testified as to the parts performed by them, respectively, thus making a complete chain of investigation, and the entries in the record books and on a card label were admitted in evidence in connection with the testimony of the witnesses. Under such circumstances the court thinks the testimony on the result of the experiments was admissible.

Admissibility of Evidence of Declarations of Pain—Admissibility of Evidence of Physician Employed to Examine So as to Testify

The Supreme Court of Mississippi says, in Mississippi Central Railway Co. vs. Turnage (49 So. R. 840), a personal injury case brought by the latter party, that declarations of present pain and suffering, no matter to whom made, are admissible as original evidence in all inquiries where pain and suffering constitute the question involved. Of course, there may be exceptional instances wherein such declarations would be rejected, such as, for instance, where one had been employed to make an examination of an injured party for the express purpose of making a witness of the person making the examination; but the general rule is as above stated. Declarations made by an injured party, narrating the cause of the injury, or narrating past pain and suffering, do not come within the rule, and, being hearsay, cannot be testified to by the party to whom made, to be used either as an original evidence or to bolster up the testimony of the injured party.

The admissibility in evidence of declarations and expressions of present pain and suffering is not dependent on whether or not they constitute a part of the res gestae (immediate circumstances of the case). Nor does time play any part in determining whether or not they are admissible, so long as the declarations and exclamations are confined to existent pain and suffering. Whether this character of evidence be classed as an exception to hearsay or as independent and original evidence, its admissibility is beyond question.

Of course, even though a physician may be employed for the express purpose of examining a person who has been negligently injured, in order that he may testify, such fact does not disqualify the physician from testifying as to the injury and extent of it gathered from the examination alone; but this fact may be considered by the jury as affecting the value of the testimony. The disqualification in such case extends only to the statements made by the injured party to the physician of pain and suffering.

President of Board of Health Not Personally Liable for Quarantine

The Supreme Court of Iowa says that the case of Kirby vs. Harker (121 N. W. R. 1071) was brought to recover damages for the restraint of the plaintiff, in being quarantined for smallpox. The defendant was at the time, as mayor, president of the local board of health. A rumor having reached him that the plaintiff was sick, he went to see him; then sent the health physician, and, on his reporting that it was a case of smallpox, notified a physician who was a member of the state board of health. The latter, while making his examination, told the plaintiff that he diagnosed his case as smallpox, and, in answer to an inquiry as to what was to be done, suggested that he remain in his drugstore with the doors locked until evening, and then go to his home and submit to quarantine. This the plaintiff agreed to do, which the physician reported to the defendant, who called a meeting of the local board of health. In the report to the board it was erroneously stated that the plaintiff had already been quarantined by the defendant, and a resolution was passed approving the quarantine so reported, and that the chairman of the board should quarantine all directly exposed persons.

The court holds that a verdict was properly directed for the defendant. While the record of the board of health recited, as stated, that the plaintiff had already been quarantined, it was shown that there was no restraint until after the board of health had officially directed the quarantine of all suspects, and notice thereof had been served on the plaintiff. If he remained secluded from his neighbors before service of the notice, it was because of his agreement with the member of the state board and was purely voluntary, and hence no liability could be predicated thereon.

In the light of the record before the court it must be held that when the quarantine was finally established and the plaintiff's liberty restrained, it was in pursuance of the formal direction of the board of health, and not on the individual authority of the defendant. Such being the case, the question of a written notice was wholly immaterial. It is evident from section 2568 of the Iowa Code that written notice is only necessary when the mayor acts without authority from the local board of health, and that it is not necessary to confer jurisdiction on such board. That the board of health had the power to act, and that its action was legal, could not be seriously questioned. And if the defendant did no more than to see that the requirements of the health board were carried out, he was not individually liable.

Furthermore, if the defendant was confined to his own home with his wife and other members of his family, it was proper to keep the other members of the family secluded from the public under the resolution of the board of health.

Expert Opinions as to Nature and Manner of Injuries—Insanity and Suicide

The Supreme Court of Iowa says, in the case of Van Norman vs. Modern Brotherhood of America (121 N. W. R. 1080), that expert opinion as to the nature and results of a physical injury is and always must be of great value where a determination of these facts become material. But when the expert undertakes to describe the manner in which the injury was or must have been inflicted, his opinion borders on the realm of guesswork, and is little if any better than the opinion of the expert of average experience and judgment. For instance, if an expert testifies that because a bullet enters a person's temple, penetrating the skull, instead of glancing therefrom, the gun must therefore have been at right angles to the temple, the jury is justified in taking such testimony with a great degree of allowance, and bringing to bear on the problem their own common sense, knowledge, observation and experience. In the very nature of things the particular manner and method by which an injury has been inflicted cannot ordinarily be the subject of expert testimony.

In the absence of direct proof as to the manner of death, if the circumstances leave any room for doubt on the question, the law presumes that death is accidental or from natural causes, and not suicide. There is a general presumption against the theory of self-destruction. But it is not correct to say that if a person had any ailment affecting his mind, "however slightly," or was suffering from mental unsoundness in any degree, the presumption against suicide does not obtain. There are many varieties, phases, or degrees of mental unsoundness. It is not, the court believes, an established or admitted fact that persons in all phases or degrees of mental unsoundness have a tendency to suicide. Such persons are, of course, to a greater or less degree moved to acts and conduct of an abnormal or unnatural character rendering their peculiar condition a material and proper fact for the jury on the question of suicide, but to say that in every instance the ordinary presumption shall be given no weight is a rule which this court is unwilling to sanction.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

October 30

1 *Relief of Urinary and Genital Conditions Through Surgery of the Seminal Vesicles. E. Fuller, New York.
2 Clinical Varieties of Periodic Drinking. P. Bailey, New York.
3 *Is Lobar Pneumonia Inflammation of the Lungs? T. G. McConkey, San Francisco.
4 Defective Speech in Backward and Feeble-Minded Children. B. C. Downing, Lexington, Mass.
5 Preparation of Romanowsky Stains. R. W. King, Las Animas, Colo.

1. **Relief of Urinary and Genital Conditions.**—Fuller finds that many cases of urinary and genital disease may be cured by treatment of the seminal vesiculitis that exists. For this purpose he employs stripping of the seminal vesicles through the walls of the rectum, by the finger. He places the patient in the knee-elbow position, with the knees well spread out, when surgical interference is necessary, and makes incisions along the ischia, connected by a transverse incision. The vesicles are opened, cleaned out, and drainage used until healing has occurred. The patient is under treatment for about three weeks, two of them in bed. No tissues are removed, simply drainage applied, and there is no danger to the sexual functions; they are rather preserved than injured by the procedure. Fuller has done this operation 126 times without a death. In all but 10 cases the cure was complete.

3. **Lobar Pneumonia Inflammation of Lungs.**—McConkey believes that pneumonia is not an inflammation of the lungs, but a manifestation of a general infection due to the pneumococcus. It is a bacteriemia, and the localization in the lungs is not the primary trouble, and is not a process of inflammation, but a secondary process in sequence and in importance.

Boston Medical and Surgical Journal

October 28

6 The Fruits of Medical Research with the Aid of Anesthesia and Asepticism. C. W. Eliot, Cambridge, Mass.
7 *Acute Gonorrheal Epididymitis Treated by the Method of Bier. J. D. Barney, Boston.
8 The Opsonic Treatment of Pyorrhea Alveolaris. T. C. Beebe, Boston.
9 Eponymic Expressions in Medical Literature. F. H. Garrison, Washington, D. C.
10 *Epidemic of Catarrhal Jaundice. F. E. Leslie, Andover, Maine.
11 *Relaxed Knees in Children. M. H. Rogers, Boston.
12 Use of the Term "Flat-Foot": Diagnostic Classification of the Ordinary Disabilities of the Adult Foot. H. O. Feiss, Cleveland, Ohio.

7. **Acute Gonorrheal Epididymitis.**—For the ambulatory treatment of gonorrheal epididymitis, Barney considers the method of Bier the most valuable at our command. There are occasional failures, as with everything else, but its ease of application, simplicity and the excellent results should recommend highly its wider use.

10. **Epidemic of Catarrhal Jaundice.**—While he has always regarded catarrhal jaundice as sporadic or secondary to some other diseased condition of the hepatic or digestive systems, Leslie now regards it as an infection probably through the breath, or other excretions. He saw 135 cases in six months.

11. **Relaxed Knees in Children.**—This condition, according to Rogers, is most frequently seen in children between the ages of 3 and 5 years who are often fairly large for their age, and are well developed, and very well nourished, except that their muscles may not be very firm, and they may have a good deal of fat tissue. Occasionally, children with relaxed joints are thin and poorly nourished and underdeveloped. Children who have deformities due to rachitis often develop a similar condition of joint strain, but the large number of these cases show no evidence of rachitis, and it is not an etiologic factor. The majority of cases are from families of good circumstances rather than in the foreign element, largely perhaps, because more attention is paid to symptoms which are not severe, and advice is sought because the child tires easily and is restless at night. On physical examination the child is found well nourished and a little above the average weight, but its musculature is not firm. The standing attitude is characteristic in a well-marked case. The condition of the knees is the most prominent feature. When the child stands at rest there is a slight knock-knee and one or both knees are in a hyperextended position. One knee may be held in a normal position, but when the weight of the body is shifted, that knee-joint will spring backward. The position of the feet is more pronated than normal, and the scaphoid is prominent and low. In most of the cases, especially in a well-marked case, there is a good deal of lordosis of the lumbar spine and a prominent abdomen, and the shoulders are generally rounded and the head is held forward. The spinal muscles are prominent and sometimes held in spasm. There is appreciable laxity of the knee-joint and in all cases it is possible to obtain lateral motion.

If careful attention is paid to increasing the rest periods of the child, so that at night the whole body is not fatigued, the acute symptoms, such as pain and the restlessness during sleep, are usually alleviated. The diet should be carefully regulated and general hygienic treatment should be undertaken in order to strengthen the muscles and to put the child into better physical condition. It is not necessary to use any retentive apparatus for the knees unless the knock-knee is pronounced, because such apparatus tends to prevent the strengthening of the muscles. But occasionally it is necessary to apply simple knock-knee braces, to be worn part of the time. The pronation of the feet is best treated by raising the inside edge of the heel from 3/16 to 1/4 inch, and if the foot is not thus held in good position, a light plate or felt pad on an inner sole may be used. If possible, it is better to depend entirely on shoeing, so as not to interfere with the development of the muscles of the foot. It is more difficult to prevent the hyperextension of the knees. Most of the children wear spring-heeled shoes, and by putting on heels from ½ to 1 inch in height, the child is tipped forward and is compelled to stand with the knees slightly flexed, and this makes it more difficult to hyperextend the knees. The knee should be stretched by daily manipulation, grasping just above and below the joint, and bending the knee outward, while it is extended, several times morning and night, up to the point of causing pain to the child. It is not possible to correct the knock-knee, nor to make the joint firm in a short time, but it is possible to prevent more deformity, and gradually the joints will regain their tone, especially if the general condition of the child is improved.

New York Medical Journal

October 30

13 *Gastric Ulcer in the Young. A. Jacobi, New York.
14 *Etiology and Symptomatology of Peptic Ulcers. C. G. Stockton, Buffalo.
15 *Clinical and Pathologic Significance of Bacteriemia in Suppurative Otitis. A. B. Duel and J. Wright, New York.
16 Combined Direct and Indirect Teaching Cystoscope. R. Guiteras, New York.
17 *Intravenous Injections of Mercury. W. F. Bernart, Chicago.
18 Diagnosis of Renal Tuberculosis. A. P. Condon, Omaha.
19 New Treatment of Locomotor Ataxia. A. Heym, Chicago.
20 Observations and Statistics on 60,000 Labors, Occurring in the New York Lying-in Hospital. J. W. Markoe, New York.
21 Herpes Zoster Ophthalmicus Involving the First Division of the Left Fifth Nerve. C. A. Oliver, Philadelphia.
22 Pathologic Questions Concerning the Mutilations Represented on the Anthropomorphous Huacos Pottery of Old Peru. A. S. Ashmead, Canadensis, Pa.

13. **Gastric Ulcer in the Young.**—Jacobi says that the anatomy of gastric ulcer and the principles of its treatment are in the main essentially the same in all periods of life.

14. **Etiology of Peptic Ulcer.**—Stockton regards as the most interesting and probably the most important recent contribution that of Wienland, who maintains that there is formed in the gastric mucosa an antibody, an antipepsin, which opposes the digestive action of the acid gastric juice. Wienland holds that, for some unknown reason, there occurs, in certain areas of the gastric mucosa, a deficiency of these antibodies and that the stomach, thus unprotected, is readily injured by the corroding effect of the gastric secretion.

15. **Bacteriemia in Suppurative Otitis.**—Duel and Wright made cultures from 57 patients, 55 ear cases, and 2 frontal sinus cases. In some of the positive cases, one or two repeated cultures were made to confirm the first. Owing to the difficulty in making them, cultures in infants and small children were not attempted. At first only patients just operated on, or about to be operated on, for mastoiditis were examined. In 42 of these this technic was adopted:

Ten c.c. of blood drawn from the median vein was transferred to an Erlenmeyer flask containing 150 c.c. of broth (either plain broth or 1 per cent. dextrose) and was then incubated for thirty-six hours at 37 C. It was then thoroughly shaken, its neck well flamed off, and 15 c.c. of the contents poured out into a previously sterilized centrifuge tube. This tube full of blood broth was then immediately centrifuged for fifteen or twenty minutes, the supernatant liquid poured off, and agar slants inoculated from the sediment. In these 42 cases, 15 positive cases of bacteriemia were demonstrated. In a second series of 15 cases the blood was mixed with an ammonium oxalate solution to prevent coagulation, and immediately plated. By this method one positive case was demonstrated.

17. **Intravenous Injections of Mercury.**—The 9,838 injections included in Bernart's report were given in 422 cases. Only 22 patients completed a full term treatment, namely about eight courses given during a period of about two years, the intervals between these periods being devoted to some other form of treatment; 22 patients averaged 108 intravenous injections each; 86 of the patients received two or more courses, averaging 32 injections for each individual; 314 patients received only one course, the average being 15 injections for each patient. The mercuric chlorid was injected 9,446 times, the cyanid of mercury 327 times, the biniodid of mercury 33 times, and mercury ethylenediaminesulphate (sublamine) 32 times. Of the mercuric chlorid the average dose was 0.02 gram (4/15 grain), the minimum single dose of this salt was 0.0032 gram (1/20 grain) and the maximum was 0.0455 gram (7/10 grain). The average dose of the cyanid of mercury was 0.01 gram (1/6 grain), of the biniodid of mercury 0.013 gram (1/5 grain) and of the sublamine 0.016 gram (1/4 grain).

A simple phlebitis followed after 208 of the injections. An obliterating endophlebitis occurred after 48 of the injections, marked renal irritation occurred in only 3 of the 422 cases and was undoubtedly due to the preparation of mercury used, namely, the cyanid, which has a reputation of being a renal irritant. Among the 422 cases, well-marked bloody diarrhea occurred in 7 patients and lasted from two to twenty-four hours. The smallest amount which ever produced a severe bloody diarrhea was 0.0097 gram (3/20 grain) of the mercuric chlorid given during twenty hours. A marked intestinal tenesmus with or without a simple diarrhea occurred after less than 1 per cent. of the injections and exclusive of the inconvenience produced at the time was a matter of no moment. It is a noteworthy fact that all the patients having severe simple or bloody diarrhea of sudden onset were under the influence of some saline cathartic taken either shortly before or after the injection was given. Although unable to draw any positive conclusions as to the exact curative value of the intravenous medication, it can, however, be emphatically stated, says Bernart, that a single course of such injections carries more effective and therapeutic value than can be obtained in the same time from any other method of medication. When active syphilis is the factor to be considered quick and favorable results are produced.

19. **Tabes Dorsalis.**—Heym is of the opinion that the destruction of the nerve tissue is not due alone to the toxins circulating in the blood, but to the toxins contained in all the other fluids of the system. Therefore, the toxins in the lymph and in the cerebrospinal fluid are also concerned in this destructive action. The cerebrospinal fluid appears to be the active and destructive element in tabes in consequence of its toxic condition, as it seems to be very probable that this fluid, perhaps on account of its slow circulation, is the more saturated with toxins than the blood or the lymph. Heym believes that the theory of the destructive influence of the cerebrospinal fluid on the different nervous elements explains in a surprisingly easy manner the pathologic changes of tabes. If the toxins of the liquor cerebrospinalis are the destructive agents in tabes, it is a problem of the therapy to try to destroy or neutralize these toxins where they are most abundant. The most simple way to produce a result of this kind is to inject into the subarachnoidal space a substance that has the effect of eliminating or neutralizing, perhaps, the toxins without irritating the brain and the spinal cord.

Among the substances which favor the destruction of toxins without having an injurious effect on the nervous system cacodyl preparations seem to be the best ones, but Heym's experiments are not yet completed and he deems it not improbable that a remedy still more specific will be found. He has used exclusively sodium cacodylate put up in sterilized vials, each vial containing 0.05 arsenic in 1 c.c. To avoid all disagreeable effects, he never drains off any cerebrospinal fluid. He has always performed the injection by putting the patient on the side; after the injection the patient must retain the recumbent position from one to two hours. Heym injects 1 c.c. every second or third day.

Nineteen patients have been treated in this manner, twelve cases of tabes and seven cases of mental paralysis. None of the patients showed after the injection any of the symptoms commonly found after lumbar puncture. On the contrary, the condition of the patients after the injections was always very good. The beneficial effect of the injection appeared promptly after the third or fourth injection in every case with one exception. The pains originating from the roots were greatly reduced and finally disappeared almost entirely.

Lancet-Clinic, Cincinnati

October 23

23 Local Versus General Anesthesia. B. M. Ricketts, Cincinnati.
24 Diagnosis in Suspected Joint Disease. C. E. Caldwell, Cincinnati.

Virginia Medical Semi-Monthly, Richmond

October 22

25 Influence of Factory Inspectors on Public Health. H. B. Wood, Philadelphia.
26 Mercury—Physiology and Therapy. Is It a Specific in Germ, Toxic and Degenerative Diseases? H. E. Jones, Roanoke.
27 Examination and Diagnosis of Diseases of the Anus and Rectum. E. H. Terrell, Richmond.
28 Pellagra—Clinical Study and Report of Fourteen Cases. W. F. Drewry, Petersburg.
29 Relation of the Medical Profession to the State Board of Health. H. S. MacLean, Richmond.

Northwestern Lancet, Minneapolis

October 15

30 *Pulmonary Tuberculosis Among Scandinavians. G. D. Head, Minneapolis.
31 Surgical Tuberculosis—Tuberculin—Report of Cases. A. E. Benjamin, Minneapolis.
32 Surgical Treatment of Roots of Loosening Teeth. T. B. Hartzell, Minneapolis.
33 Physician's Investments: City Bank Stocks. F. A. Chamberlain, Minneapolis.
34 Case of Spina Bifida. W. H. Aurand, Minneapolis.

30. **Pulmonary Tuberculosis Among Scandinavians.**—From a study of the death records of pulmonary tuberculosis among the Scandinavians in the state of Minnesota and its chief city, and the comparison of the same with those of the registration area of the United States, Head concludes that:

1. Pulmonary tuberculosis shows a higher mortality among the Scandinavians than in any other race of our foreign population except the Irish.
2. This mortality is lower in Minnesota than in the registration area in the United States.
3. The death-rate among the foreign-born Scandinavians is higher than among the native-born Scandinavians.
4. The death-rate among the native-born Scandinavians is about twice that of the native-born of native mothers.
5. The reason why Minnesota and its chief city, with a large Scandinavian population, have such a low death-rate from pulmonary tuberculosis, is, in part at least, because of the low death-rate among the native-born of native parentage.

New York State Journal of Medicine, New York

October

35 Value to the Family Physician of a Knowledge of Orthopedic Surgery. W. R. Townsend, New York.
36 The Romantic Movement in Medicine. P. Scott, Brooklyn.
37 The War of the Cities Against Tuberculosis. C. F. Burrows, Syracuse.
38 Microcephalus with Encephalocele. C. C. Zacharie, White Plains.
39 Perforating Gastric Ulcer. C. L. Gibson, New York.
40 Some Advantages of a Small Hospital. W. E. Ford, Utica.
41 Treatment of Syphilis. J. M. Winfield, Brooklyn.
42 Diseases and Conditions which May be Mistaken for Appendicitis. W. C. Wood, Gloversville.
43 The Cry of the Unborn. I. D. Steinhardt, New York.
44 Tuberculin Diagnosis of Bone and Joint Tuberculosis. E. F. Sibley, Kingston.
45 Results in One Hundred and Eighty-two Operations for Inguinal and Femoral Hernia: Necessity for Resection of the Cremaster Muscle when Hypertrophied. J. M. Bachelor, New York.
46 Leukemia—Comment on Report by Dr. Henry G. Webster. A. L. Benedict, Buffalo.

Long Island Medical Journal, Brooklyn

October

47 The Relation of Diseases of the Upper Air Passages to Asthma, Cough and Disorders of Digestion. T. R. French, Brooklyn.
48 Relation of Ophthalmology to General Medicine. J. B. Thomas, Brooklyn.
49 Remote Results of Conservative Surgery on the Ovaries. J. O. Polak, Brooklyn.
50 *Deep Injections of Alcohol in Tic Douloureux. C. W. Stickle, Brooklyn.

50. **Deep Injections of Alcohol in Tic Douloureux.**—Stickle has made injections into Meckel's ganglion through the naris and through the sphenopalatine foramen for the relief of a "tic" affecting the pharyngeal and palatine branches of the superior maxillary branch with beneficial results. This method was first employed by William Browning, who suggested reaching the ganglion through the naris for the relief of pharyngeal and tonsillar neuralgia. The method used was puncture through the sphenopalatine foramen, after cocainizing with bent needle and afterward carrying trichloracetic acid on an applicator through the opening so made. This was followed by distinctly favorable results in two cases. In neither case was there any postoperative involvement of the facial nerve. In the first injection made by Stickle a 0.05 aqueous solution of cocain was used, with complete cessation of all pain for at least four months, when the patient was lost to observation. He afterward used a 10 per cent. solution of chloroform, containing ½ grain of cocain to the ounce, with apparently the same result. This patient had a relapse after two injections into or near the foramen rotundum, within three months. He then used a 50 per cent. solution of alcohol in water with the addition of ½ grain of cocain to the ounce. Relief had been complete after observation for seven months. The amount of fluid injected in these two cases amounted to about 1 c.c.

Yale Medical Journal, New Haven, Conn.

October

51 The Medical School as Part of the University. W. H. Howell, Baltimore.
52 Cystoscopy: Its Technic and Diagnostic Uses. P. D. Littlejohn, New Haven.
53 *Bacterial Vaccines in the Treatment of Disease. C. J. Bartlett, New Haven.
54 *Venesection and Dermatology. T. M. Bull, Naugatuck, Conn.
55 *Localization of Lesions of the Genitourinary Tract. F. H. Coops, Bridgeport, Conn.

53, 54, 55. Abstracted in THE JOURNAL, June 26, 1909, pp. 2124, 2125.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

October

56 Experimental Criticism of Recent Results in Testing Adrenalin. W. H. Shultz, Washington, D. C.
57 *Relation Between the Toxicity and Chemical Constitution of a Number of Derivatives of Choline and Analogous Compounds. R. Hunt and R. de M. Taveau, Washington, D. C.
58 *Action of Adrenalin on the Pulmonary Vessels. C. J. Wiggers, Ann Arbor, Mich.
59 *Crystalline Strophanthin. H. C. Bailey, Ithaca, N. Y.
60 *Life-Saving Action of Physostigmin in Poisoning by Magnesium Salts. D. R. Joseph and S. J. Meltzer, New York.

57. **Toxicity and Chemical Constitution of Choline.**—In each of 12 groups of homologous compounds, Hunt and Taveau found that the compound containing a tri-methyl group was less toxic than that containing a tri-ethyl, a tri-propyl, or a tri-amyl group. In 8 of the 12 groups, the tri-amyl, in 3 the tri-propyl, and in 1 the tri-ethyl was the most toxic. Compounds containing 2 methyl and 1 amyl group had a toxicity greater than that of the tri-methyl but less than that of the tri-amyl compounds. Compounds containing the oxy-ethyl group were less toxic than those containing a shorter or a longer side-chain with 1 hydroxyl group (except in the case of the tri-ethyl compounds). In all cases, compounds containing 2 hydroxyl groups in the side-chain were less toxic than those containing but 1 hydroxyl. This was true also of compounds containing 2 acetyl but not of those containing 2 benzoyl groups. The acetyl group increased the toxicity of all the compounds containing tri-methyl and tri-ethyl groups; with the tri-propyl and tri-amyl groups the effect varied in different compounds. The benzoyl group increased the toxicity of the compounds containing tri-propyl and tri-amyl groups. The effect varied in the case of the tri-methyl and tri-ethyl compounds. A chlorin atom in the side-chain diminished the toxicity of the acetyl derivatives of the tri-methyl and tri-ethyl compounds; the increased toxicity caused by the introduction of an acetyl group may thus, to a certain extent, be overcome by the introduction of a chlorin atom. A chlorin atom in the side-chain increased the toxicity of the benzoyl derivatives of the tri-methyl and tri-ethyl compounds. The normal oxypropyl compound and its derivatives were invariably more toxic than the oxy-iso compounds.

58. **Action of Adrenalin on the Pulmonary Vessels.**—The effect of adrenalin on the pulmonary vessels was studied by Wiggers by three methods: (1) By recording changes in pulmonary arterial and venous pressures; (2) by estimating changes in the amount of fluid perfused through the lungs; (3) by recording the contraction of a ring of pulmonary artery. He found that because the simultaneous influence of adrenalin on the heart cannot be eliminated, it is not possible to determine by pressure measurements in the pulmonary circuit whether or not adrenalin actively affects the pulmonary vessels. Adrenalin dissolved in a solution of the same viscosity as that with which the organ is perfused causes a constriction of the pulmonary vessels. If the adrenalin is dissolved in a solution of less viscosity than the perfusion liquid, the viscosity change is sufficient to counterbalance, or even overbalance the adrenalin action unless the doses used are very large. The increased outflow and fall in perfusion pressure does not indicate an active dilation but a viscosity change.

59. **Crystalline Strophanthin.**—Bailey advises that the daily dose should not exceed one-half milligram of the crystalline strophanthin, as a rule, and under no circumstances should this dose be repeated in twenty-four hours, except after careful study of the effects on the circulation. Crystalline strophanthin may be given intramuscularly or intravenously. It should be dissolved in normal saline solution in the proportion of 1 to 4,000 for intramuscular injections and from 1 to 6,000 to 1 to 8,000 for intravenous use. It is a valuable cardiac stimulant when compensation is broken in chronic interstitial myocarditis or in any form of chronic valvular disease, but it should be used in this way only in emergencies. It is not suited for continuous use, and when continued stimulation is desired he states that digitalis should be employed.

60. **Physostigmin in Poisoning by Magnesium Sulphate.**—A careful research has convinced Joseph and Meltzer that physostigmin is capable of efficiently antagonizing some of the toxic actions of magnesium salts. It may directly serve as a life-saving agent against fatal poisoning by magnesium salts, if the dose of the latter employed be not too large. Physostigmin overcomes the toxic effects of magnesium essentially by the aid it renders to the depressed function of respiration. This aid is of three-fold origin. It stimulates the respiratory center; it antagonizes the "curare-like" action of the magnesium-ion on the nerve endings of the pneumogastric nerves within the lungs. Physostigmin antagonizes also the magnesium action on the peripheral nerve endings and probably also the action on muscle tissue. The extent of this antagonism, however, seems to be not very significant.

Chicago Medical Recorder

October

61 Contemporary Workmen's Compensation for Industrial Injuries. W. H. Allport, Chicago.
62 Placenta Prævia. F. Werner, Chicago.
63 *Method of Performing Abdomino-Perineal Excision for Carcinoma of the Rectum and of the Terminal Portion of the Pelvic Colon. W. E. Miles, Brompton, England.
64 Poliomyelitis. G. C. Shockey, Chicago.
65 Perirectal Abscess. C. J. Drueck, Chicago.

63. Published in *The Lancet*, Dec. 19, 1908.

Journal Michigan State Medical Society, Detroit

October

66 *The Physician: His Duties and Relations to the Profession and to the Public. A. I. Lawbaugh, Calumet.
67 The Nature and Treatment of Gunshot Wounds. F. B. Walker, Detroit.
68 The Frontal Sinus. A. J. Abbott, Albion.
69 *Facts on Blood-Pressure. C. B. Fulkerson, Kalamazoo.
70 Prostatectomy. J. J. Reycraft, Petoskey.
71 Puerperal Eclampsia. J. O. Groos, Escanaba.

66. Abstracted in THE JOURNAL, Sept. 25, 1909, p. 1047.

69. **Blood-Pressure and Shock.**—Some men have shown the uselessness of strychnia and digitalis, because the vasomotor center will not respond to any stimulation centrally or peripherally. Fulkerson says that saline transfusions come nearer to solving the difficulty, but frequently prove futile, while adrenalin, intravenously in dosage of 1:50,000 or 1:100,000, with addition of atropin, seems to net the greater majority of successes.

United States Naval Bulletin, Washington, D. C.

October

72 The Hospital Camp at Norfolk, Va. P. A. Lovering, U. S. Navy.
73 *Teaching of Tropical Medicine Outside of the Tropics. E. R. Stitt, U. S. Navy.
74 Ethyl Chlorid as a General Anesthetic. L. W. Johnson, U. S. Navy.
75 Chronic Nephritis in Recruits. B. F. Jenness, U. S. Navy.
76 The Investigation of Samoan Conjunctivitis. P. S. Rossiter, U. S. Navy.
77 Points on Embalming Practicable on Board Ship. C. Schaffer, U. S. Navy.

73. Abstracted in department of Society Proceedings, in THE JOURNAL, May 8, 1909; published also in the *New York Medical Journal*, July 24, 1909.

Journal Missouri State Medical Association, St. Louis

October

78 *Fractures. A. J. Campbell, Sedalia.
79 *Anesthesia. W. E. Leighton, St. Louis.
80 *Late Effects of Chloroform. W. W. Stevens, Kansas City.
81 *Action of Scopolamin-Morphin on the Heart, Liver and Kidneys. C. M. Nicholson, St. Louis.
82 Ocular Diseases Due to Systemic Influences. W. H. Minton, St. Joseph.
83 Medical Jurisprudence. W. R. Littell, Tarkio.
84 *Physiology of Shock. M. G. Seelig and E. P. Lyon, St. Louis.
85 Empyema. J. W. Holliday, Tarkio.
86 Astasia-Abasia. J. D. Brummall, Salisbury.
87 Dry Gangrene. G. W. Whiteley, Albany, Mo.

78. **Fractures.**—Speaking of operation on ununited fractures, Campbell says that the refreshening of the ends of the fragments is a necessary step in the technic. But, he says, there is yet reasonable doubt regarding the advisability of this operation, except in special cases. The difficulty in securing and maintaining proper adjustment of the fragments because of the lack of command of the inner portion, its porous character and low vitality, present obstacles to success that cannot be denied. The degree of shortening that follows successful results suggests an initial failure of reduction of the deformity or the maintenance in proper place, and bespeaks, in any event, a considerable amount of absorption at the seat of the fracture. A more extended experience is needed and a careful comparison of the favorable results by different methods of treatment is required before a final judgment can be rendered. In fact, the treatment of the fractures of the neck of the femur is gradually undergoing a change which may prove to be a very radical one.

79. **Anesthesia.**—Leighton discusses the subject of general anesthesia, with special reference to a consideration of the responsibility of the anesthetist to the patient, to the surgeon, and to the law. He says that in view of the fact that to administer an anesthetic with the minimum risk to the patient is all that a properly qualified and experienced man can attend to, and since the surgeon can **only** properly give attention to his share of the operation, it would seem reasonable that he should be absolved from any responsibility pertaining to the anesthetic, and the responsibility placed where it belongs, on the anesthetist.

80. **Late Effects of Chloroform.**—Stevens considers only the late effect of chloroform on the liver and the resulting hepatic syndrome and pathology. There is marked similarity in the symptoms exhibited in all of the reported cases. The patient usually makes what is apparently a good recovery from the anesthetic, and seems to be doing well. Suddenly the marked cerebral symptoms appear; he becomes anxious, irrational, restless, with sudden and great fright, piercing cries, shrieks, grinding of the teeth, tossing and struggling, delirium followed by apathy, and then coma; irregular or dilated pupils, tremor; the sweet acetone odor is present in the breath; vomiting of "coffee-ground" vomitus; absence of fever until just before death, when it may reach 104 degrees F.; jaundice of varying degrees, flushed face, air hunger as shown by deep breathing and bright red mucous membranes, Cheyne-Stokes respiration, cold extremities, weak, rapid pulse, collapse and then death.

The autopsies done on patients dying with the above symptoms after chloroform, almost invariably show the same macroscopic and microscopic changes, which are: pale and faun-colored liver, fatty degeneration or infiltration of the liver, the various changes of nephritis in the kidney, fatty degeneration of the heart, and fatty degeneration of the muscles of the lower limbs. The most important of these are those found in the liver—fatty degeneration and necrosis of the liver cells; autolytic disintegration of the necrotic cells and fatty degeneration of the cells which are not necrotic. The capillaries and blood-vessels do not seem to be involved, there is no thrombosis, and no inflammation or proliferative action. This condition is essentially an hepatic toxemia and the other changes are secondary in importance to those in the liver.

81. The principal points in this article are given in a similar article by this author in THE JOURNAL, April 3, 1909, p. 1096.

84. **Shock.**—Seelig and Lyon try to show explicitly that the peripheral vessels are contracted, and implicitly that not all the vasomotor centers can be exhausted. The complexity of the vasomotor apparatus, with its multiplicity of centers, and the seemingly independent action of many of these centers, renders it impossible to frame a satisfactory theory based on their results. They claim, however, that if their work stands the test of confirmation, then the doctrine that shock is due to vasomotor exhaustion must be revised.

Bulletin of the American Academy of Medicine, Easton, Pa.

October

88 *Classification of Exceptional Children as a Guide in Determining Segregation. M. P. E. Groszmann, Plainfield, N. J.
89 *Necessity of Expert Medical Inspection of Public Schools. A. R. Baker, Cleveland, Ohio.
90 *The Leakage in Our Educational System. M. Bancroft, Haddonfield, N. J.
91 *Care of Exceptional Children by Children's Bureau of Philadelphia. J. P. Murphy and W. S. Cornell, Philadelphia.
92 *What Is Being Done for Backward and Mentally Deficient Children in the Public Schools of Philadelphia. L. A. Kirby, Philadelphia.
93 *What May Be Done for Exceptional Children by the Training of Speech and the Development of Language. G. Hudson-Makuen, Philadelphia.
94 *Value of the Nurse in the Public School. T. A. Woodruff, Chicago.
95 *Rational System of Medical Education Will Furnish Physicians Adequate for the Entire Field of Medical Practice. L. Connor, Detroit, Mich.

88, 89, 90, 91. Abstracted in THE JOURNAL, July 31, 1909, pp. 402, 403.

92, 93. Abstracted in THE JOURNAL, Aug. 7, 1909, p. 481.

94. Abstracted in THE JOURNAL, June 26, 1909, p. 2124.

95. Abstracted in THE JOURNAL, July 3, 1909, p. 70.

Therapeutic Gazette, Detroit

October

96 *Relation of Some of the Recent Advances in Cardiac Physiology and Pathology to Treatment. H. A. Hare, Philadelphia.
97 Treatment of Interstitial Keratitis. A. Brav, Philadelphia.
98 *Overdosage in Treatment of Tuberculosis. A. L. Benedict, Buffalo.
99 Methods Employed for Relief of Organic Stricture of the Urethra in the Genitourinary Surgical Department of the Jefferson Hospital (continued). O. Horwitz, Philadelphia.

96. **Cardiac Physiology and Pathology.**—Hare shows that cardiovascular stimulants are often given when vascular relaxants are really needed, and that more attention to the protection of the heart from unnecessary labor is advisable. If the physician will direct his treatment to the vessels, the heart will often be able to care for itself. Therefore, do not stimulate a heart to increased effort when the real object is to decrease its burden and to diminish the toxemia which is destroying its function.

98. **Overdosage in Treatment of Tuberculosis.**—With due allowance for light and drafts, Benedict says it is not obvious, *a priori*, why an enclosed veranda is necessarily superior to a well-ventilated bedroom. Again, unless it can be shown that the constant nasal (not buccal) breathing of cold air has some direct effect on the bacillus or indirect effect on the tissues or leucocytes, it seems questionable whether the artificial conservation of the bodily heat by clothing and rugs is

superior to an artificially warmed but pure atmosphere. It must also be questioned whether the almost total suppression of perspiration and dermal exhalation is advisable. The term overdosage is particularly applicable to the insistence on continuous outdoor or practically outdoor life, without regard to wind, rain, and excessive cold. Why exposure which a healthy individual would avoid should be necessary for the consumptive, Benedict finds it difficult to understand.

Southern California Practitioner, Los Angeles

October

100 Suggestions as to Diet in Tuberculous Patients. C. C. Browning, Monrovia.
101 Surgical Treatment of Gastric and Duodenal Ulcer. C. D. Lockwood, Pasadena.
102 Case of Renal Calculus: Operation; Pulmonary Embolism. R. T. Bullard, Los Angeles.
103 Internal Obstruction from Peritoneal Bands. C. Van Zwalenburg, Riverside, Cal.

Interstate Medical Journal, St. Louis

October

104 Clinical Study of the Blood. A. J. Whiting, London.
105 Psychiatry. S. I. Schwab, St. Louis.
106 *Presence of Tubercle Bacilli in the Circulating Blood in Tuberculosis. A. E. Taussig, St. Louis.
107 *Physiology of Shock. M. G. Seelig and E. P. Lyon, St. Louis.
108 Syphilis of the External Eye. C. A. Wood, Chicago.
109 *Perforative Appendicitis Complicating Pregnancy. E. A. Babler, St. Louis.

106. **Tubercle Bacilli on Circulating Blood in Tuberculosis.**—Taussig tried Rosenberger's method on a large number of tuberculous patients in the St. Louis City Hospital, but with uniformly negative results. From a series of patients with relatively advanced tuberculosis, spreads were made according to Rosenberger's method and, in addition, the entire sediment from 5 c.c. or more of the venous blood was injected subcutaneously into the groin of a guinea-pig. The bacilli could not be found in a single case, while the guinea-pigs showed at no time any evidence of infection, and, when killed from 72 to 90 days after inoculation, showed no evidence of tuberculosis. Taussig says that it is evidence that if the bacilli can be found microscopically in a spread, the inoculation of a guinea-pig with an amount of sediment many times as great as that used for microscopic preparation could not fail to produce tuberculosis.

107. See Abstract 84.

109. **Perforative Appendicitis Complicating Pregnancy.**—Babler reports 3 cases, in 2 of which operation proved successful. He also reviews briefly a previous paper on the same subject published in THE JOURNAL, Oct. 17, 1908, p. 1310.

Albany Medical Annals

October

110 Present Status of Blood-Vessel Surgery. E. MacD. Stanton, Schenectady, N. Y.
111 Percutaneous Tuberculin Reaction of Moro. E. Corning, Albany.
112 Treatment of Suppurative Conditions of the Accessory Nasal Sinuses. C. F. Theisen, Albany.
113 Mastoiditis. A. J. Bedell, Albany.
114 Sinusitis of the Accessory Nasal Sinuses. A. Holding, Albany.
115 Need of Visiting and Certified Nurses. J. M. Mosher, Albany.

Woman's Medical Journal, Cincinnati

October

116 Common Diseases of the Eye and Their Treatment. L. A. Lane, Minneapolis.
117 Notes from My Obstetric Practice. A. R. Mattheson, Brooklyn, N. Y.
118 Progress of Electricity and Its Value to Medicine. I. M. Wilson, Columbus, Ohio.
119 Forensic and Clinical Aspects of Transitory Frenzy. H. C. B. Alexander, Chicago.
120 *Elongated Umbilical Cord. E. Braunwarth, Muscatine, Iowa.

120. **Elongated Umbilical Cord.**—Braunwarth reports a case of greatly elongated umbilical cord in a male infant weighing 8½ pounds. The cord was 90 inches long, and was wrapped four times around the neck, once around each shoulder, crossed over the back like suspenders, once around each hip and below each knee. The child was released and did well.

Dominion Medical Monthly, Toronto

October

121 Pathology of General Paralysis. E. Jones, Toronto.
122 Laparotomy for Tuberculous Peritonitis and Suprapubic Prostatectomy Three and One-Half Years Later. F. W. Marlow, Toronto.
123 Primary Carcinoma of Neck. F. A. Clarkson, Toronto.

Archives of Pediatrics, New York

October

124 *Position and Work of the American Pediatric Society Toward Public Questions. T. M. Rotch, Boston.
125 Spasmodic Stricture of the Esophagus. L. E. La Fetra, New York.
126 *Gastric Capacity of Infants. H. O. Mosenthal, New York.
127 *So-Called Casein Masses in Infants' Stools. L. F. Meyer, Berlin, and J. S. Leopold, New York.
128 Development of Dairy Hygiene. R. G. Freeman, New York.
129 Case of Salaam Convulsions. S. A. Agatston and I. Goldstein, New York.

124. Abstracted in THE JOURNAL, June 12, 1909, p. 1948.

126. **Gastric Capacity of Infants.**—Mosenthal claims that the gastric capacity of infants as measured postmortem or *intra vitam* is a false guide to the amount of milk that should be offered at each feeding. The quantity of milk given at each nursing should exceed the measured gastric capacity for a child of the corresponding age by a considerable margin. The interval between nursings should never be less than 2½ hours for breast-fed children, and 3 hours for bottle-fed. Infants fed according to these principles showed no signs of gastric dilatation during life nor on postmortem examination of 24 cases that died of marasmus. In infants exhibiting the symptoms of overfeeding, the size of each nursing is in many instances not at fault. The cause of such symptoms must also be sought in too short periods between nursings, in the improper dilution of milk, and especially in excessive fats.

127. **"Casein Masses" in Infant's Stools.**—Clinical observations and careful analyses have convinced Meyer and Leopold that the so-called casein masses cannot be considered undigested casein; the nitrogen of the feces and the nitrogen of the food bear no intimate relation to one another, and the appearance of the "casein masses" and even an increased amount of nitrogen in the stools do not point to a disturbance in proteid digestion.

Cleveland Medical Journal

October

130 Some Medicolegal Problems, from the Standpoint of the Attorney. A. Hadden, Cleveland.
131 Three Cases of Breus Mole (Hematomole). A. H. Bill, Cleveland.
132 Perineal Herpes in a Case of Pneumonia in a Child Eight Months Old. J. Phillips, Cleveland.
133 Diagnosis and Treatment of Eclamptic Toxemia; Vaginal Cesarean Section in the Pre-eclamptic Stage. A. J. Skeel, Cleveland.
134 Formaldehyd Poisoning. J. MacLachlan, Cleveland.
135 Modified Submucous Resection of the Nasal Septum. R. D. Fry, Cleveland.
136 Typhoid Fever Complicating Pregnancy. W. O. Ziemer, Cleveland.

American Journal of Physiology, Boston

October

137 Influence of Calcium on the Pupil and the Pupillomotor Fibers of the Sympathetic Nerve. J. Auer and S. J. Meltzer, New York.
138 *Certain Aspects of Carbohydrate Metabolism in Relation to the Complete Removal of the Thyroids and Partial Parathyroidectomy. F. P. Underhill and W. W. Hilditch, New Haven, Conn.
139 Integumentary Nerves of Fishes as Photoreceptors and Their Significance for the Origin of the Vertebrate Eyes. G. H. Parker, Cambridge, Mass.

138. **Carbohydrate Metabolism.**—Underhill and Hilditch summarize their investigations on metabolism after parathyroidectomy as follows: When thyroidectomy and partial parathyroidectomy have been performed on dogs, the presence of at least two intact parathyroids is sufficient to maintain life, health, and apparently normal control of the nutritional processes of the body for a long period of time. Contrary to the results obtained with thyreoparathyroidectomy, the above operation does not result in a lowering of the assimilation limit for dextrose introduced subcutaneously; nor could any evidence be obtained that this operation gives rise to an increase in urinary ammonia excretion similar to that resulting from complete thyreoparathyroidectomy. After an operation whereby one thyroid and three parathyroids were removed, there was observed a measurable diminution in the sugar-assimilative power of the organism.

Adrenalin chlorid, administered subcutaneously, in doses of 1 mg. or more per kilo of body weight, invariably causes a significant glycosuria in dogs deprived of both thyroids but retaining at least two parathyroids. These observations are

not in harmony with those reported by Eppinger, Falta and Rudinger. Unlike the experience of Massaglia with young dogs, no evidences of myxedema were observed with full-grown animals (two dogs) even ten months subsequent to removal of the thyroids and partial parathyroidectomy.

Mississippi Medical Monthly, Vicksburg

October

140 Treatment of Tuberculosis in Mississippi. R. P. Wendel, Aberdeen.
141 Diagnosis and Treatment of Cystitis in the Male. S. A. Eggleston, Shell Mound.
142 Rheumatism in Children. W. P. Patterson, Beauregard.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

October 16

1 *Relation of Medicine to the Ancillary Sciences. S. West.
2 Operative Treatment of Cataract. A. E. J. Kister.
3 Venous Anesthesia. C. M. Page and S. G. MacDonald.
4 Epidemic of Enteric Fever, Probably Due to Infection by a "Carrier." H. Roscoe.
5 *Thyroidectomy and a Theory of Cancer Causation. W. Stuart-Low.
6 Fatal Endocarditis Occurring During Scarlet Fever. J. M. Clements.
7 Duodenal Fistula Cured by Operation. R. L. Knaggs.

1. **Medicine and Ancillary Sciences.**—According to West, the proper position of each of the ancillary sciences is side by side with medicine. They must all work loyally together in a common search after the truth. But if one must be pre-eminent it is surely medicine, which has the right to pre-eminence as the parent of them all. To speak of the clinician or physician as obsolete, effete, or an anachronism, is midsummer madness. The clinician, says West, is as necessary to the progress of medical science in the present day as the bacteriologist, physiologist, or pharmacologist. In fact, there never was a time when the mature experience and cool judgment of the practiced clinician was more necessary than now, to put brilliant but crude theories to the test, and in general to counteract the separatist tendencies of modern specialism. After all, the end and aim of all this work is to make the student a practical physician, an object which too often seems to be lost sight of in the controversies of rival educationalists. So much time is spent in preparing the student to be a physician that there is little or none left to make him one. In other words, so much time is spent on preliminaries that the practical clinical work is scamped. The result must be a less finished and complete article than such a curriculum would seem to promise. If each student could add to his curriculum a year of residence in a hospital as a house officer, without any examination to work for, he would obtain what is lacking. But all cannot have the advantage of hospital experience of this kind, even if they can afford the time and money. Instead of gaining practical experience in the wards while they are students, when mistakes do no harm and can be corrected, they have to learn it later in practice, where mistakes are serious to themselves and to their patients.

The remedy is to cut down the curriculum until the work required is not more than can be accomplished by the average man in the time allotted to it. Each preliminary subject must be pruned and all that is not essential ruthlessly cut out. The present muddle, for a muddle West claims it is, has largely arisen from the want of that control which medicine should exercise over the whole curriculum, preparatory as well as professional. The object is to make a man a physician, and the physicians themselves are the best judges of what is necessary for that purpose. The perspective of the medical curriculum has been lost. It can only be regained by medicine resuming the control over the whole medical curriculum, preparatory as well as professional. This control it has in theory but not in practice. The time has now come when in the interests of medicine and of the students that control must be resumed and effectively exercised.

5. **Thyroidectomy and Cancer.**—After years of careful observation of many cases of carcinoma and sarcoma in all stages, Stuart-Low has come to the conclusion, looking on the thyroid gland as the fly-wheel of body growth and metabolism, that this organ is very liable to overwork, that the body metabolism in this manner is liable to become over-driven, and that so the thyroid may be a causative factor in the origin and continuation of malignant disease. Holding these views, he long had it in contemplation to perform more or less complete excision of the thyroid in inoperable carcinoma as the best means of eliminating or ameliorating a disturbing factor in the diseased organism of the carcinomatous. Five cases are reported in which this was done, and there seems to be no doubt that partial removal of the thyroid had an influence on these growths. It seems to have a deterrent effect on the rate of growth of the primary tumor; the secondary glands, too, seem to be favorably affected, as in these cases there was a softening change in the glands, and they were much less painful. In all cases the pain was quickly relieved. The patients, instead of losing weight, as they were doing before the operation, put on weight. Another thing noted in all these cases was a distinct slowing of the rate of the pulse. The second, third, and fifth patients were operated on at a much earlier date than the first and fourth, and it would appear to be best to intervene as early as possible, not waiting until the patient is too low and weak.

British Medical Journal, London

October 16

8 Intermittent Closing of Cerebral Arteries. W. Russell.
9 Congenital Heart Affections. G. Carpenter.
10 Peroneal Type of Muscular Atrophy. J. R. Halliday and A. J. Whiting.
11 *Chronic Infantile Paralysis of Ten Years' Standing: Treatment: Result. F. Hernaman-Johnson.
12 *Determination of the Tubercle Bacillus in the Blood of Persons Suffering from Phthisis. A. M. Hewat and H. G. Sutherland.
13 *Influence of the Unsaturated Fatty Acids in Tuberculosis. O. T. Williams and C. E. P. Forsyth.
14 Angina Pectoris. Sir T. C. Allbutt and Sir L. Brunton.
15 Treatment of Tinnitus Aurium. T. Barr and R. Lake.
16 Association of Slight Abnormalities of the Auricle with Certain Forms of Deafness. H. E. Jones.
17 Etiology of Exostoses of the External Auditory Meatus. G. Jackson.
18 Extirpation of the Larynx Fitted with a New Vocalizing Apparatus. R. H. Woods.
19 Surgical Anatomy of the Tonsils. J. H. Neil.
20 The Labyrinthine Nystagmus Tests. D. McKenzie.
21 Treatment of Cicatricial Stenosis of the Larynx. H. L. Lack, V. Delsaux and D. B. Delavan.
22 Cancers of the Throat. R. H. Scanes-Spicer.

11. **Chronic Infantile Paralysis.**—Hernaman-Johnson says that chronic infantile paralysis of medium severity occurring in persons not yet of full growth should never be regarded as incapable of improvement, even when the condition is of many years' standing. Because the parents will not permit the surgeon to perform a simple and, to his mind, obviously necessary operation, he should not, therefore, throw up the case. It is his duty to do what he can for the patient by other means, thereby conserving the limb, and leaving the way open for surgical measures at some future date. As regards paralytic deformity below the knee, leg-irons and coil-springs are not the last word in supporting apparatus. Provided expense is not a first consideration, special boots can generally be devised to suit individual cases—boots which need not be a source of constant embarrassment to the sensitive girl patient approaching young womanhood. The fact that the patient has well-to-do and intelligent parents desirous of giving their child every chance, is no guarantee that everything possible has been done. Each case, no matter what the history, should be considered with an open mind.

12. **Tubercle Bacillus in the Blood.**—Analysis of the results obtained by Hewat and Sutherland shows them to be almost completely opposed to those obtained by other observers. In one instance only, out of twenty-two blood examinations from twenty patients, was it possible to demonstrate tubercle bacilli. In this case two acid-fast bacilli were found, resembling morphologically the tubercle bacillus. A second examination of the blood of the same patient proved negative after prolonged search, so that they were led to believe that the presence of the two bacilli referred to may have been accidental. These observations seem, therefore, to indicate that at no stage of localized pulmonary tuberculosis is the tubercle bacillus demonstrable in the blood.

13. **Influence of Unsaturated Fatty Acids in Tuberculosis.**—Williams and Forsyth summarize their paper as follows:

1. Bodies containing unsaturated fatty acids have the power of disintegrating the waxy envelope which surrounds the tubercle bacillus.
2. The nature of the fat in the food, influences the nature of the fat in the tissues.
3. The administration of substances rich in unsaturated fatty acids may therefore be of value against the bacilli in the body. The dissolution of the waxy sheath may itself be fatal to the organism, or, this dissolution being effected, the bacillus may be rendered easier of attack by ordinary body forces.
4. The unsaturated fatty acids and their compounds aid the absorption of other kinds of fat.
5. With the administration of these bodies there is a beneficial effect on nitrogenous metabolism as well.

Medical Press and Circular, London

October 6

23 Cancer of the Tongue. R. A. Stoney.
24 Quacks, False Remedies and the Public Health. D. Walsh.
25 The Addendum Prandii and Professional Education. J. S. Wallace.
26 Treatment of Rheumatoid Arthritis. A. Robin.

Clinical Journal, London

September 29

27 Nervous Disease in which Diagnosis was Difficult. J. A. Ormerod.
28 Disorders of the Cerebral Circulation and Their Clinical Manifestations (continued). A. E. Russell.

October 6

29 Operative Treatment of Carcinoma of Uterus. A. H. N. Lewers.
30 *Disorders of the Cerebral Circulation and Their Clinical Manifestations (concluded). A. E. Russell.

30. **Disorders of Cerebral Circulation.**—In his lectures Russell endeavors to show that variations in the cerebral circulation, apart from gross lesions such as hemorrhage, thrombosis, and embolism, exercise great influence in the production of nervous symptoms. Such variations in the cerebral circulation are often associated with equally marked variations in the peripheral circulation and in the action of the heart. Alterations in the circulation afford an adequate explanation, not only of the ordinary fainting fit, but also of the more prolonged attacks characterized by cardiac, vasomotor and cerebral symptoms. Russell urges that these cases, which in some respects are so closely allied to epilepsy, the suddenness of some faints and the conversions of faints and fits, afford strong evidence that the epileptic fit itself owes its origin to some disturbance of the circulation. Corroborative evidence is afforded by the accuracy with which the symptoms of the various stages of the epileptic fit are reproduced in cases of heart-block due to heart disease.

Finally, evidence of the cessation of the heart's activity in epilepsy is given. In the case of petit mal it has been suggested that two different factors may be concerned. In some cases the transient unconsciousness may be produced by a very transient cardiac failure; in others cerebral vasomotor spasm may be concerned. Russell holds that if these views are correct, the pathology of epilepsy is carried only one stage further. The reason of these morbid cardiovascular changes is yet to seek. A hereditary factor is obvious, and we must assume that there is an inherited instability of the sympathetic and cardiovascular systems. The cerebral manifestations of uremia are simply due to increased intracranial tension with resultant interference with the cerebral circulation. Evidence is given to show that this change is amply sufficient to account for all the manifestations of uremia.

Practitioner, London

October

31 *On Being Tired. Sir L. Brunton.
32 *Indigestion. F. J. Smith.
33 *Treatment of Lobar Pneumonia. A. Latham.
34 Headache. W. Harris.
35 Jaundice. G. Rankin.
36 *The Common Cold. H. Campbell.
37 Neuralgia. P. Stewart.
38 Pertussis as Whooping Cough. J. H. Thursfield.
39 Treatment of Bronchitis. J. C. Briscoe.
40 *Boils and Carbuncles: Their Treatment. H. G. Adamson.
41 Corns and Bunions. J. F. Palmer.
42 Fractures of Upper Extremity of the Femur and Their Treatment. J. H. Pringle.
43 Pelvic Pain Apart from Obvious Lesions. H. T. Hicks.
44 Operative Technic of Piles. J. H. Nicoll.
45 Useful Points in Connection with Diseases of the Ear. M. Yearsley.
46 Common Diseases of the Hair. T. Robinson.

31. **Being Tired.**—Brunton's paper is a very thorough and most interesting discussion of fatigue which, he says, like hunger and thirst, is a systemic sensation, although, just as hunger has its local seat in the stomach, and thirst in the mouth and throat, fatigue has it more especially in the eyes and muscles. Hunger, thirst and fatigue are among the overpowering sensations of the body, and fatigue may be so great as to overpower the other two, and to prevent the sufferer from obtaining the food and drink which would have relieved him. Excessive weariness is so painful that it destroys the desire for life. Although weariness may be produced by a number of causes, yet the most frequent is excessive muscular exertion. Over-exertion in a muscle causes it gradually to lose its power of contraction, until, finally, it cannot contract at all, and so movement either of the body or limbs becomes impossible. But so long as muscles are connected with the central nervous system the complete exhaustion of the muscle is impossible, for before it becomes paralyzed by its own exertion the sensation of fatigue is perceived by the nervous centers, and the nervous stimuli which proceed to the muscle are so much diminished that complete paralysis is never produced. The sensation of fatigue is a central sensation. It is observed in the central nervous system, but it is produced by peripheral exertion. Brunton describes a number of physiologic experiments in line with these thoughts.

32. **Indigestion.**—Having once found out to the best of our knowledge and belief that there is no organic cause for indigestion, says Smith, does it help in any way to clearer conceptions of indigestion to prefix it with so many names—atonic, hyperchlorhydric, hypochlorhydric, apeptic, gouty, rheumatic, atrophic, dystrophic, renal, irritative, flatulent? Surely it is better to consider what sin a patient has been guilty of that he should be thus troubled, and how he can be helped back to paths of physiologic righteousness. The stomach is a long-suffering organ, as, indeed, it was meant and has need to be, but even a worm will turn at last, and so the stomach resents the treatment it is being subjected to and cries out for more consideration. Smith briefly runs over the symptoms of indigestion, and points out those features which suggest organic disease and render scientific investigation desirable.

As to the diet, Smith claims that cold boiled ham or bacon is of all flesh foods the most easily digested; other fads are that chicken is less digestible than beef and mutton when the latter are properly masticated; that there is no difference between red and white meat in digestibility, inherent in the meat itself, that is to say, though a patient may prefer one to the other; that fish need not necessarily be boiled, but may be cooked to the taste of the eater; and, lastly, that if a patient likes to try any fad of the faddists it will probably do him no harm to do so.

33. **Treatment of Lobar Pneumonia.**—One practical deduction made by Latham is that the patient should be placed under the same conditions as a patient suffering from typhoid fever. He should be kept in bed in what he finds to be the most comfortable position—usually the supine position—and any attempt at movement by his own exertion should be checked. The nurse may naturally shift his position, from time to time, either when this is requisite for nursing purposes, or when the patient craves for a change of position, but such movements must entail as little exertion on the patient's part as possible. Another deduction is that once the diagnosis is made examination of the patient should be directed to strictly salient points. The elaborate examination of the chest, back and front, once or even twice daily, does harm. The anxious search of some physicians for the presence of fluid or pus seldom gives any information in the first week of the disease, while the careful mapping out, day by day, of the area of consolidation has seldom, if ever, led to any advantage to the patient. Such elaborate physical examinations often mean the difference between recovery and death. In the treatment of pneumonia, then, the first lesson, based both on facts of clinical experience and on scientific investigation, is to refrain from unnecessary movement and meddlesome examination. Apart from the essential necessity of absolute rest, and apart from vaccine therapy, the treatment of pneumonia resolves itself into placing the patient under the best hygienic conditions, supplying a non-flatulent diet,

meeting symptoms as they arise, and endeavoring to avoid complications. Latham has had encouraging results from the use of vaccines.

36. **The Common Cold.**—Campbell claims that by means of vaccine therapy, not only are we able to cut short an acute cold, but also to confer considerable immunity against future attacks. By this method, we can, further, often successfully treat colds which have become chronic, e. g., chronic rhinitis, laryngitis and bronchitis. In but few cases of common cold can a stock of vaccine be employed with much hope of success; except in the case of the *Bacillus septus* we are not likely to do good by any vaccine other than that prepared from the patient's own person.

40. **Boils and Carbuncles.**—In cases of acute or recent eruptions of boils, Adamson says one may expect a cure by the use of vaccines; that there are, however, many methods of local application which give excellent results, particularly, collodion painting in early lesions, injection of carbolic acid, hot fomentations, and glycerin dressings; that in chronic furunculosis vaccines may be given a trial; but that the best results are to be obtained from continuous boric-acid fomentations, and from *x*-ray application to lesions which are much indurated. In cases of carbuncles the lesion is seen when small, it may be painted with collodion or injected with carbolic acid, but, better still, merely protected with a boric-acid fomentation and a thick pad of wool, and a staphylococcus vaccine administered; the injection to be repeated in three or four days if improvement takes place. If the lesion continues to spread in spite of the vaccine, then it should be treated surgically by complete excision, or by scraping or cutting away all the diseased tissue. In the case of very large carbuncles, complete erasion is the treatment which gives most rapid relief to all symptoms.

Indian Medical Gazette, Calcutta

September

47 *Jail Dysentery, with Special Reference to Forster's Vaccine. W. Gillitt.
48 Smallpox. S. C. S. Vaughan.
49 New Lactic-Acid-Producing Streptothrix. G. C. Chatterjee.
50 Etiology of Double Quotidian Fever with Notes on Early Stage of Leishman-Donovan Infection. G. C. Chatterjee.

47. **Jail Dysentery.**—Gillitt reaffirms his belief in the efficacy of the vaccine treatment of dysentery and reports cases.

Intercolonial Medical Journal of Australasia, Melbourne

August

51 Early Recognition of Uterine Carcinoma. G. Horne.
52 Uterine Adenocarcinoma. E. A. Spowers.
53 Cyclic Albuminuria. A. J. Wood.
54 Cerebellar Tumor. D. M. Morton.
55 Fifty Consecutive Celiotomies (continued). A. J. Nyulasy.
56 Large Vesical Calculus, Weighing Twenty-six and One-fourth Ounces, Removed by Suprapubic Lithotomy—Recovery. W. W. Hearne.
57 Case of Sprue. C. Bage.

Annales de Dermatologie et de Syphiligraphie, Paris

September, X, Nos. 8-9, pp. 481-544

58 Congenital Erythrodermia Resembling Ichthyosis. (Contribution à l'étude des érythrodermies congénitales ichtyosiformes avec deux observations.) J. Nicolas and A. Jambon.
59 Ringworm at Parma. (Trichophyties de la province de Parme.) R. Sabouraud.

Archives Générales de Chirurgie, Paris

September, III, No. 9, pp. 881-990

60 *Surgery of the Heart. (Contribution à la chirurgie du cœur.) Salomoni.
61 Implantation of the Ureter in the High Stump of the Rectum After Low Enteroanastomosis with Sigmoid Flexure. (Urétéro-rectostomie haute terminale après sigmoïdo-rectostomie basse termino-latérale.) P. Descomps.
62 *Compound Fractures of Front of the Skull. (Les fractures compliquées de la région antérieure du crâne.) L. Thévenot.
63 Total Epiploitis Complicating Salpingitis. Mauclaire.

60. **Surgery of the Heart.**—Salomoni has been able to find 158 cases in which the heart has been sutured, reported by 119 surgeons. Recovery occurred in 59 cases, that is, in 37.33 per cent. In 21 cases death occurred before the operation was completed. The list includes 57 cases published in Italy, with 13 recoveries. He advocates access to the heart by enlarging the traumatic wound with scissors and articulating from the sternum the costal cartilages above and below. In 30 out of the total 58 recoveries the pericardium had been drained. The effusion in the pericardium which frequently follows the suture collects back of the heart, causing precordial oppression, distress and weakness; acceleration of the pulse and cyanosis do not appear until later. The list includes only 6 cases reported in America.

62. **Compound Fractures of the Front of the Skull.**—Thévenot reports two cases and discusses the treatment. It is important, he says, to explore the wound under general anesthesia, not forgetting that the fracture may be at some little distance to one side of the wound of the soft parts. In some cases a fracture has been assumed when nothing of the kind existed. This is especially liable when the lesion is low and the frontal sinus unusually developed, as the fracture may involve only the anterior wall of the sinus. Nervous symptoms, if present, are apathy, somnolency, and impairment of memory; the absence of severe reaction on the part of the nervous system sometimes misleads as to the presence of a fracture. If the pulse or respiration becomes slower or there is slight mental confusion, immediate exploration of the wound is indicated.

Archives Générales de Medecine, Paris

August, LXXXIX, No. 8, pp. 571-650

64 Acute Articular Rheumatism. (Bactériologie, sérothérapies et vaccination du rhumatisme articulaire aigu.) G. Rosenthal.
65 Symptomatology of the Vestibule of the Ear. (L'appareil vestibulaire de l'oreille.) Goldmann.

Presse Médicale, Paris

Oct. 2, XVII, No. 79, pp. 689-696

66 Measures to Prevent Operative Infection. (Des moyens preventifs de l'infection opératoire.) T. Tuffier.

Oct. 6, No. 80, pp. 697-704

67 Serodiagnosis of Echinococcus Disease. (Diagnostic de l'échinococcose par la réaction de fixation. Ses causes d'erreur.) G. Paisseau and L. Tixier.

Oct. 9, No. 81, pp. 705-720

68 *Spasmodic Paralysis in Inherited Syphilis. (Forme de paralysie spasmodique d'origine hérédo-syphilitique chez l'enfant.) A. B. Marfan.
69 *"Numerical" Atrophy. (Contribution à l'étude de l'atrophie numérique.) F. Trémolières and A. Gallais.

Oct. 13, No. 82, pp. 721-728

70 General Anesthesia with Spinal Technic. (La rachianesthésie générale.) T. Jonnesco.

68. **Spasmodic Paralysis of Syphilitic Origin in Children.**—Marfan discusses the case of a boy between 8 and 9 with spasmodic paraplegia more pronounced on the left side, scarcely perceptible as the child reclines, but interfering with standing and walking; the paralysis is not accompanied by sensory or trophic disturbances or sphincter trouble, but the Argyll-Robertson sign is marked and the child is mentally backward. The first tendency to paralysis was observed about the age of 5, previously to which the development had been practically normal except for slight evidences of rachitis. These features of the case exclude Little's disease, and the insidious onset without fever, convulsions or coma and the integrity of the arms also exclude acute encephalitis. The trouble is evidently of spinal origin, but the spine is apparently normal. The clinical picture indicates some lesion in the pyramidal tract in the dorso-lumbar region. The absence of other cases in the family excludes what Strümpell has described under the name of "familial spasmodic paraplegia." Marfan has encountered three similar cases and in all was able to trace the trouble to inherited syphilis. He even suggests that syphilis may have some connection with Strümpell's familial form. In the present case the paraplegia did not seem to be influenced by eighteen months of systematic mercurial treatment. It was not instituted, however, until the paraplegia had lasted for fifteen months; it is possible that better results might have been attained if the child had been seen earlier.

69. **"Numerical" Atrophy.**—Klippel first called attention to this form of atrophy affecting regions which have been the site of some injury during the early periods of growth. The tissues are normal but they do not develop to the normal extent. The atrophy is the entire trouble, all tests showing freedom from degeneracy, the general impression being that of merely a lesser number of cells than normally in the region, hence the term, "numerical atrophy." The present article shows how it can be detected in the most widely diverse conditions and afford a predisposition to numerous and varied affections, from the skin lesions to tuberculosis and even brain troubles.

Archiv für Kinderheilkunde, Stuttgart

LI, Nos. 5-6, pp. 321-500. Last Indexed October 16, p. 1339

71 *Treatment of Diphtheritic Laryngeal Stenosis. J. Neumann.

71. **Treatment of Diphtheritic Laryngeal Stenosis.**—Neumann reports the experiences with diphtheritic stenosis in Baginsky's pediatric service at Berlin during the years 1901-1907 inclusive. Pre-existing tuberculosis was found in a number of the fatal cases of laryngeal ulceration, and this may be a more frequent factor, he says, than is generally recognized. The cutaneous or other tuberculin test may prove useful in throwing light on some of these cases.

Archiv für klinische Chirurgie, Berlin

XC, No. 3, pp. 543-864. Last Indexed September 18 and October 16, pp. 980 and 1339

72 Rupture and Dislocation of Finger Tendon. (Ruptur und Luxation der Streckaponeurose eines Fingers.) H. Schloffer.
73 *Diagnosis of Conditions in Kidney Pelvis by Gauging Capacity and by Roentgen Examination. (Zur Diagnose des erweiterten Nierenbeckens durch Aichung und Pyelographie.) F. Voelcker.
74 *Experimental Cancer in Dogs. (Experimentelle Erzeugung des Carcinoms beim Hunde.) A. Sticker.
75 Experimental Research on Movements of the Intestines. (Experimentelle Untersuchungen über normale und pathogische Darmbewegung.) J. Boese and H. Heyrovsky.
76 *Technic for Removal of Cancer of Pelvic Portion of Rectum and Colon. (Technik der abdomino-perinealen Operation der Carcinome der Pars pelvina recti und des Colon pelvinum.) L. Moszkowicz.
77 *Operative Treatment of Diffuse Suppurative Peritonitis. W. Noetzel.
78 *Puncture of Corpus Callosum in Brain Surgery. (Bewerthung des Balkenstichs in der Hirnchirurgie.) v. Bramann.
79 Earthquake Injuries. (Ueber die durch das Erdbeben in Messina am 28 Dec. 1908 verursachten Verletzungen.) Colmers.
80 *Free Transplantation of Ureter to Serve for Urethra. (Eine neue Methode zur Operation der männlichen Hypospadie.) V. Schmieden.
81 *Scalping Accidents. (Ueber Scalpirungen.) W. Elchmeyer.
82 *Fish-bladder to Close Gap in the Dura. (Ueber alloplastichen Duraersatz.) J. Hanel.
83 Experimental Research on Action of High-Frequency Electric Currents. (Fulguration.) P. Nieuwenhuyse.
84 Plastic Operations on the Trachea. (Zur Tracheoplastik.) K. Nowakowski.
85 Operative Treatment of Congenital Sarcoma. (Zur localen Operativbehandlung congenitaler Sarkome ohne Röntgenisirung.) Lücke.

73. **Diagnosis of Enlarged Kidney Pelvis by Gauging Capacity and by Roentgen Examination.**—Voelcker has been continuing his work with his method of pyelography, that is, Roentgen inspection of the kidney pelvis after it has been filled with a fluid that casts a shadow, which he first described two years ago. He here relates his experience with it in a number of clinical cases, giving seventeen skiagraphs to show the findings. He supplements or precedes the pyelography by gauging the size of the pelvis from the amount of fluid that can be injected into it, using the same fluid that is required for the pyelography. He has found a solution of colloidal silver best adapted for the purpose, preferring a 2 per cent. solution of collargol; its dark color distinguishes it from urine, and it casts a shadow under the Roentgen rays. He injects it through a ureter catheter until the injection becomes painful or the collargol solution flows back outside the catheter. When the catheter is first introduced, he determines the amount of residual urine by noting the amount of urine that trickles from the catheter and whether it stops abruptly, whether it is of normal tint and specific gravity—the urine secreted in reflex polyuria is very thin and pale; whether the urine is turbid, and this turbidity reaches its maximum as the trickling of urine ceases, and whether the amount of urine trickling from the catheter cannot be increased by bimanual pressure on the kidney region—all these signs speaking for residual urine. After learning all he can in this line, he injects the silver solution if convinced that the pelvis is dilated; the stretched walls do not feel the injected fluid, but if the pelvis is not dilated the solution causes pain. In this way he has gauged the capacity of the kidney pelvis, finding it range from 5 to 20, 120 and even 150 c.c. in some cases. The findings are classified as noted in cases of wandering kidney, congenital displacement of the kidney, dilatation of the pelvis and dilatation of the ureters, examples of the Roentgen findings in each being given.

74. **Facts Learned from Experimental Cancer on Dogs.**—Sticker reports that inoculation of a fragment of a spindle-celled sarcoma into the mammary gland of a dog resulted in the production of a typical mammary carcinoma, and cites similar experiences reported by others. Such facts teach, he reiterates, that implantation and irritation are causal factors of cancer, although not necessarily the only ones. All malignant growths of rapid development, he thinks, are due to implanted germs which irritate the region where they are implanted, the result being a tumor growth which need not necessarily be of the same structure as that of the implanted germ. He suggests the term "mutation tumor" for a growth of this kind and reports some clinical examples, as, for example, Schmorl's case, in which an adenocarcinoma in the thyroid recurred after removal, the recurrence being part carcinoma and part sarcoma, while at autopsy typical sarcomas were found at various internal points.

76. **Combined Technic for Removal of Cancer in Pelvic Rectum or Colon.**—Moszkowicz reports 16 cases of cancer of the pelvic rectum or colon, with a mortality of 4, that is of 25 per cent., but zero during the last series of 6 cases. He gives illustrations of special points in his technic, urging the importance of shortening the operation as much as possible, and discussing the indications for a supplementary artificial anus and the technic for providing an organic diaphragm between the pelvis and the abdominal cavity.

77. **Operative Treatment of Diffuse Suppurative Peritonitis.**—Noetzel devotes nearly a hundred pages to a review of the various operative measures that have been attempted in peritonitis. His own figures embrace the years 1891-1908, and a total of 449 cases. The principles followed were those advocated by Rehn: extensive opening of the abdomen and radical removal of the cause; extensive irrigation with warm salt solution and drainage at the lowest point, the pelvis lowered; and suture to restore normal pressure in the abdominal cavity. All the patients with purulent peritonitis were treated in this way, even the apparently moribund, and 62 per cent., 278 of the 449, were cured. Hernia later was observed only in a small proportion of the cases. The mortality has been constantly decreasing until now recovery is the rule in from three-fourths to four-fifths of all cases, the mortality averaging now only 20 per cent.; the deaths being mostly caused by pneumonia, sepsis, subphrenic abscess, phlegmons, ileus or inanition.

78. **Puncture of the Corpus Callosum in Brain Surgery.**—Bramann's communication on this measure in treatment of hydrocephalus was summarized in these columns October 30. He here gives a more detailed description of the technic, with special reference to brain tumors. In three patients in an advanced stage the headache, vertigo and vomiting subsided more or less completely after the puncture. In another case the benefit from the puncture was so decided that the patient, rousing from her comatous condition, free at last from the violent headaches, vomiting, vertigo and tinnitus, responded sufficiently to tests so that the causal tumor could be finally located and successfully removed. The symptoms due exclusively to the tumor persisted, but those from the pressure of fluid subsided after the puncture. This case, he asserts, refutes the objection that the results of puncture may mask the clinical tumor picture and render localization more difficult. The rapid subsidence of choked disc was one of the most striking results of the puncture. He urges puncture of the corpus callosum in all cases of hydrocephalus rebellious to other measures and in all cases of tumors and pseudotumors of the brain accompanied by internal hydrocephalus and congestion neuritis threatening blindness, and also as a preliminary to removal of a brain tumor when the brain is under such pressure that it tears or protrudes much from the trephining opening, preventing palpation. In a number of such cases relief of pressure by the puncture enabled the operation to be successfully completed. He suggests in conclusion that puncture of the corpus callosum may possibly prove of use in treatment of epilepsy.

80. **Treatment of Hypospadias.**—Schmieden writes from Bier's clinic at Berlin to describe with a few illustrations a method of correcting hypospadias by building up the penis, then boring a tunnel through it, and drawing into this tunnel a stretch of ureter taken from some other living person or

from the cadaver. In one case he used the ureter from a child's cadaver. In others he waited until he could summon the patient on occasion of an operation for hydronephrosis on another patient. He waits fully two weeks after implantation of the ureter before he tests its permeability, then commences to inject sterile oil through it and, finally, four or five weeks later, unites the proximal stump of the ureter with the distal stump of the patient's urethra and closes the openings except the meatus of the new urethra. He has experimented on animals with implantation of a stretch of ureter, although not in the penis, and in only one of his nineteen experiments did the ureter show signs of necrosis. In three clinical cases the technic gave fairly satisfactory results, but he regards only one of these cases as a complete success.

81. **Scalping Accidents.**—Eichmeyer has had two such cases in his recent experience and another is in the records of his hospital while he has found fifty-two other cases in the literature. In case the scalp hangs by a sufficiently broad pedicle to nourish it adequately, it should be replaced and efforts made to have it heal in place. But if the pedicle is small these efforts are sure to fail, and the only thing that can be done then is to cut down the scalp to an area proportional to the amount of nourishment liable to be supplied through the pedicle. It is useless and does actual harm to interfere with the healing of the injury by replacing the torn-off scalp unless there is a reasonable prospect of its healing in place. Under favorable conditions the Krause method of flaps from the periphery of the injury may be applied, but these do not heal over the vertex: a combination of the Italian plastic method and Krause flaps offers the best prospects. If Thiersch flaps are preferred, it is well to commence with them in a day or so, but they will not heal on bare bone. Chronic nervous manifestations are the rule afterward.

82. **Fish Bladder to Close Defect in the Dura.**—Hanel reports experiments on dogs which show that a piece of fish bladder heals into place when introduced to fill a gap in the dura. It becomes gradually absorbed, but a kind of membrane forms in its place. A month or two after its implantation this membrane fills up the gap in the dura, its thickness and texture being strikingly like that of the normal dura, while there is no adhesion to the brain below.

Berliner klinische Wochenschrift

October 4, XLVI, No. 40, pp. 1797-1836

86 Morphology of Tuberculosis Virus with Special Regard to a Contrast Stain. L. Weiss.
87 *Diphtheria Toxin and Roentgen Rays. (Diphtheriegift und Röntgenstrahlen.) H. Gerhartz.
88 Paratyphoid Bacilli A. (Ueber Paratyphus A.) G. Baermann and O. Eckersdorff.
89 *Endographic Method of Examination of Alimentary Canal. (Ueber die Anfänge einer "endographischen" Untersuchungsmethode von Magen, Darm und Speiseröhre.) H. Schade.
90 Treatment of Obesity. (Ueber Entfettungskuren.) E. Tobias.
91 *Use of Active Serums for Serodiagnosis of Syphilis. N. A. Tschernogubow.
92 Dynamics of Morbid Phenomena. (Ueber die Dynamik der Krankheitserscheinungen.) A. Münzer.

87. **Diphtheria Toxin and Roentgen Rays.**—Gerhartz reports from Senator's clinic at Berlin a series of experiments which seem to demonstrate that exposure to the Roentgen rays destroys the toxicity of the toxin both in the test-tube and in the animal body, whether the toxin is circulating in the blood stream or bound in the tissues. In every experiment the animals exposed to the rays survived hours longer than the controls after injection of several times the fatal dose. Animals injected with six times the fatal dose of toxin, exposed previously to the action of the rays, also showed much attenuated infection.

89. **Endographic Examination of Esophagus, Stomach and Intestines.**—In this preliminary communication Schade describes his application to clinical diagnosis of the principle of introducing an inflatable bag into the organ to be examined, and determination of the condition of the walls of the organ by the chemical reactions noted on the surface of the inflatable bag. He calls the method "endography," and uses for the purpose a rubber bag coated before vulcanization with a thick layer of rice starch; this acts like a reagent paper in contact with abnormal secretions and tissues. A smaller tube is enclosed in the stomach tube, the lower end of the smaller tube terminating in a hollow olive. The reagent bag is fastened to the end of the inner tube, and is enclosed in a second very frail inflatable rubber bag, both being introduced collapsed into the stomach, being easily pushed along ahead of the outer stomach tube by the protruding olive of the inner tube. The outer bag ruptures when inflated through the outer tube, leaving the reagent bag free; when it is inflated its outer surface fits against the inner walls of the organ, and any ulcer, cancer or other lesion makes its imprint on the chemically prepared surface. The bag is then withdrawn collapsed through the outer stomach tube left in position. To date the operation later or course of the cases has confirmed in every instance the presence or absence of a gastric ulcer as indicated by this technic.

91. **Improved Technic for Seroreaction in Syphilis.**—Tschernogubow remarks that the Wassermann test will not take its proper place among diagnostic measures until the technic has been so modified that it can be adopted as a routine measure by the general practitioner. He is convinced that great progress has been realized in this direction by the technic which he has worked out and describes, citing the results to date of extensive application of the modified test. Only 0.5 c.c. of the patient's blood is required, while the Wassermann technic calls for ten or twenty times this amount. The other elements required for the test are merely an alcoholic extract of a pulverized healthy human liver and a 5 per cent. emulsion of sheep corpuscles. Parallel results were obtained in nearly every instance with this and the original Wassermann technic.

Deutsches Archiv für klinische Medizin, Leipsic

XCVII, Nos. 3-4, pp. 201-409. Last Indexed October 16, p. 1340

93 Research on Dyspnea from Stenosis of Air Passages. (Gasanalytische Untersuchungen.) P. Morawitz and R. Siebeck. (Einstellung der Mittellage der Lunge.) R. Siebeck.
94 Sclerosis of Pulmonary Arteries and Its Origin. (Sklerose der Lungenarterien und ihre Entstehung.) W. Fischer.
95 Metabolism in Fever, Inanition and Cachexia. (Stoffwechseluntersuchungen bei Fieber, Inanition und kachektischen Zustanden.) F. Rolly and O. Meltzer.
96 Importance of Opsonins in Diagnosis and Prognosis in Tuberculosis. W. Fornet and E. Krencker.
97 General Infection from Colon Bacilli. (Allgemeininfektion durch Bacterium coli commune.) L. Jacob.
98 *Connection Between Adams-Stokes' Syndrome and Heart-Block. (Beziehungen des Adams-Stokes'schen Symptomenkomplexes zum Herzblock.) F. Volhard.
99 Amount of Sugar Derived from Albumin in Diabetics. (Menge des aus Eiweiss entstehenden Zuckers beim Diabetes.) A. Gigon.

98. **Relations Between Morgagni-Adams-Stokes' Syndrome and Heart-Block.**—Volhard gives a number of curves taken from thirteen patients with heart block, and remarks that heart-block alone does not necessarily entail the Adams-Stokes' syndrome, though it may do so. A certain proportion of patients require no treatment; others with insufficiency of the automatically beating ventricle are greatly benefited by a milk diet or restriction of fluids. Digitalis gave good results in some of the cases of dissociation, with complete heart-block. On the other hand, the digitalis induced dissociation for the first time in a case of incomplete block. Atropin is not always reliable except in the true vagus cases without disturbances in the atrioventricular conduction. The most careful study of each individual case is necessary to determine which patient will be benefited most by digitalis, atropin, dieting, iodids, mercury or oxygen. The discovery of the Adams-Stokes' syndrome or dissociation or both is just the beginning of the true diagnosis. The more precisely it is possible to determine the reasons for the dissociation and for the syncope with dissociation, the more effectual will be the treatment based thereon of this complication of heart-block, for this is what the Adams-Stokes' syndrome is. The complicating causes which start the separate attacks may be many and various; the main point is the exact diagnosis of the underlying conditions.

Deutsche medizinische Wochenschrift, Berlin

October 7, XXXV, No. 40, pp. 1729-1776

100 *Which is Most Important Mode of Spread of Human Tuberculosis? (Welche Ansteckungsweise spielt bei der Tuberkulose des Menschen die wichtigste Rolle?) P. v. Baumgarten.
101 *Transplantation of Vessels and Organs. (Ueber Gefäss- und Organtransplantationen.) C. Garrè.
102 Implantation of Thyroid in Treatment of Myxedema and Cretinism. (Ueber Schilddrüsenimplantation bei Myxödem und Kretinismus.) F. v. Bramann.

103 Conservative Treatment of Surgical Tuberculosis. R. Klapp.
104 *Sign Revealing Placenta Prævia. (Ein brauchbares Kennzeichen der Placenta praevia.) H. Sellheim.
105 *Treatment of Lupus Vulgaris. (Behandlung des Lupus vulgaris mit Rücksicht auf die Pathogenese.) E. Lang.
106 End-Results of Enlarged Vaginal Hysterectomy for Cancer of Cervix. (Dauerresultate der erweiterten vaginalen Totalexstirpation des Uterus bei Kollumkrebs.) F. Schauta. Commenced in No. 39.
107 Familial Enlargement of Spleen and Liver, with Anemia; Benign Course. (Familiäre Milz- und Lebervergrösserung mit Anämie und gutartigem Verlauf.) A. Plehn.
108 Stain for Protozoa. (Färbung von Feuchtpräparaten mit meiner Azur-Eosinmethode.) G. Giemsa.
109 Colorimetric Test for Adrenalin. (Eine neue kolorimetrische Methode der Adrenalinbestimmung.) A. Zanfrognini.

100. **Route of Infection in Tuberculosis.**—Baumgarten thinks that the germs may be inhaled or ingested, but that future research will show that the prevailing mode of infection is by what he calls gennaeogenesis, that is, the penetration of the parental bacilli into the embryo-producing substance and into the fetus during intrauterine existence. He uses this term in preference to "germinative" and "congenital" origin to express the process more definitely.

101. **Transplantation of Vessels and Organs.**—Garrè describes what has been accomplished to date in this line.

104. **Sign of Placenta Prævia.**—Sellheim calls attention to the peculiar sensation of resistance, as of a soft cushion, between the palpating finger and the head of the fetus in case of placenta prævia. The abrupt margin of the placenta can be felt through the abdominal wall and at the rear of the uterus, with the palpating finger in the vagina.

105. **Treatment of Lupus.**—Lang reports a permanent cure in 262 cases of lupus out of 291 patients reexamined at least six months after the conclusion of treatment—his total experience including 412 cases since 1892. The fact that lupus attacks generally uncovered portions speaks for infection from without, but at the same time it may be due to some internal focus within the body. The combination of operative measures and Finsen treatment should be supplemented by general measures. The necessity for a certain amount of surgical training for young dermatologists is especially evident in the treatment of lupus, but he warns against the sharp curette and the actual cautery or any measure which leaves scars which interfere with Finsen treatment later. Special lupus institutes give much better results, as in general hospitals it is difficult to obtain the necessary concentration of attention on the lupus patients.

Deutsche Zeitschrift für Chirurgie, Leipsic

C, pp. 1-645

110 *Inflammatory Tumors in the Intestines. (Ueber entzündliche Geschwülste am Darm.) H. Braun.
111 Hypophysic Tumor with Operative Cure. T. Kocher.
112 Operative Reduction of Old Dislocation of the Elbow. (Operative Einrenkung veralteter Ellenbogenverrenkungen.) J. Dollinger.
113 Treatment of Congenital Dislocation of the Hip-Joint. (Behandlung der angeborenen Hüftgelenksverrenkung.) E. Küster.
114 *Treatment of Contracture, etc., by Operations on the Muscles. (Myotomie und Myoraphie.) B. Bardenheuer.
115 *Surgery of Ureters. (Heutiger Stand der Ureterchirurgie.) C. Garrè.
116 *Progressive Peritonitis and the Blood Picture. (Zur Diagnose und Prognose der fortschreitenden Peritonitis mit besonderer Berücksichtigung der Bedeutung der Arnethschen Blutbilder.) E. Sonnenburg and R. Kothe.
117 Two Cases of Exstrophy of Bladder Corrected by Maydl's Technic with Examination of the Urine Voided Through the Bowel. (Zwei nach Maydl geheilte Fälle von Blasenektopie mit Untersuchungen des aus dem Darm entleerten Harnes.) E. Graser.
118 *Rupture of Incarcerated Intestine Under Taxis. (Ruptur des inkarzerierten Darmes bei der Taxis.) O. Kappeler.
119 Retrograde and Double Loop Incarceration of the Intestine. (Ist es möglich, die "zwei Darmschlingen im eingeklemmten Bruch" zu diagnostizieren? Zugleich ein neuer Beitrag zu der Pathologie der "Hernie en W" resp. der "retrograden Darminkarzeration.") C. Lauenstein.
120 *Operative Treatment of Unilateral Pulmonary Tuberculosis by Total Mobilization of Wall of Chest and Release of Lung. (Pleuro-Pneumolysis thoracoplastica.) P. L. Friedrich.
121 *Present Technic of Witzel's Gastrostomy. (Die Magenfistelanlegung mit Schrägkanalbildung in ihrer heutigen Ausführung.) O. Witzel.
122 Plastic Operations on the Cheeks. (Wangenplastik.) E. Lexer.
123 Isolated Tuberculous Tumor of Ascending Colon. H. Küttner.
124 *Transplanted Flaps to Re-enforce Suture Line. (Ueber die Versicherung—Verlötung—unzuverlässiger Nahtlinien an Bauchrand Harnröhre usw. durch aufgepflantze Gewebslappen.) F. König.
125 Diagnosis and Treatment of Ureter Strictures. (Ureterenverengerung.) L. R. v. Rydygier.
126 Congenital Diverticula in the Bladder. (Kongenitalen Blasendivertikel.) G. Perthes.
127 Autopsy in Case of Total Exclusion of Colon Over Thirteen Years Ago. (Zur Darmausschaltung.) Wiesinger.
128 Operative Treatment of Fracture of Head of Femur, Especially in the Young. (Operative Behandlung der Schenkelhalsbrüche besonders im jugendlichen Alter.) Borchard.
129 Omentum in Plastic Operation for Perforated Stomach or Duodenal Ulcer. (Zur Verwertung der Netzplastik bei der Behandlung des perforierten Magen- und Duodenalgeschwürs.) A. Neumann.
130 Surgery of Pancreas Cysts. M. Martens.
131 Treatment of Complete Dislocation of the Mediotarsal Joint. (Einge Bemerkungen über die Luxatio medio-tarsea completa.) O. Madelung.
132 *Treatment of Hypophysis Tumors. J. Hochenegg.
133 Treatment of Rectal Prolapse by Plastic Operation on Pelvic Floor. (Behandlung des Mastdarmvorfalls mit der Beckenbodenplastik.) P. Poppert.
134 Malignant Degeneration of Parathyroid. F. de Quervain.
135 Treatment of Peritonitis with Special Regard to Primary Enterostomy. P. Sick.
136 Sensibility in Abdominal Organs. (Sensibilität und Schmerzempfindung der Bauchorgane.) M. Wilms.
137 The Joints with General Edema. (Verhalten der Gelenke bei allgemeinen Oedemen und Gefässkompressionen; Stauungsergüsse.) W. Müller.
138 *Treatment of Lupus on New Principles. (Einige neue Versuche zur Behandlung des Lupus.) Payr.
139 *General Index from Foundation to Date. (General-Register zu Band I-C.)

110. **Inflammatory Tumors in the Intestine.**—Braun called attention eight years ago to certain tumors in the omentum which were merely inflammatory reactions, although simulating malignant neoplasms. He here reports three similar cases in which the intestine was the site of the lesion and cites a few he has found on record. In his first case the tumor and part of the colon were resected, as also a second tumor in the intestine near the artificial anus that had been made on the assumption of carcinoma of the sigmoid flexure. The microscope revealed, however, merely a circumscribed inflammatory reaction without a trace of malignant characteristics. He thinks that some primary focus elsewhere was probably responsible for these pseudotumors, but the primary focus may have been too insignificant to attract attention. In his two other cases the operation for supposed carcinoma was refused, and later the tumor disappeared completely. It is these pseudotumors, he decides, on which quacks build their reputation for curing cancer. A preceding laparotomy or inflammatory process in the intestines is an aid in differentiation, as also the presence of fever, which is rare with cancer. During the laparotomy the discovery that the tumor is predominantly in the mesocolon and that it does not encircle the intestine, testifies to its non-malignant nature. In case of doubt, an incision and inspection of the cut surface will generally decide the question. Expectant treatment is then in order, the subsidence of the pseudotumor being accelerated by bed rest, wet packs and light diet.

114. **Myotomy and Myorrhaphy.**—Bardenheuer has enlarged the scope of this technic and here reports its application in a number of cases of contracture from inflammation or trauma of tendons in infantile spastic hemiplegia and after extensive resection of joints. In case of ischemic tendon contracture the results of dividing the fibrous degenerated flexor muscles, eventually combined with shortening the extensors are better than from the Mikulicz' resection of the bones of the forearm or Schramm's lengthening of the flexor tendons. In case of injury of the tendons, the connected muscle should be lengthened if the tendon cannot be sutured without much flexing of the fingers. The results are also said to be superior in case of spastic hemiplegia when the extremely contracted muscle is severed and the tendons of the antagonist muscles are shortened. After resection of a joint, he cuts away the muscles to have those left correspond exactly to the area of bone remaining.

115. **Present Status of Ureter Surgery.**—Garrè's article is accompanied by twelve illustrations. He regards implantation of the ureter in the intestine in case of a defect in the ureter as the best means to ensure the functioning of the kidney above. The Borelius-Berglund technic promises the best results, in his opinion; the lateral anastomosis between the two legs of the loop of intestine, with the ureter implanted at the top of the loop, allows the passage of feces

below while the empty loop above answers solely the purpose of a recipient for the urine. This technic, he declares, is an improvement on the original Maydl principle. Injury of the ureter alone, he thinks, should not be accepted now as an indication for nephrectomy.

116. **Progressive Peritonitis and the Blood Picture.**—Arneth's statements in regard to the diagnostic importance of the blood picture in peritonitis, etc., were mentioned in THE JOURNAL, Oct. 20, 1906, page 1333. Sonnenburg here presents a detailed study of five cases of progressive peritonitis in which the blood findings, according to Arneth's formula, were recorded from day to day. They confirmed Arneth's statements and suggest that the neutrophile blood picture is a most important aid for oversight of the processes going on and the severity of the infection.

118. **Rupture of Incarcerated Hernia During Taxis.**—Kappeler reports four unpublished cases and four from the literature. The taxis had been applied by the patient himself in four, but in two taxis had been very gentle and by a skilled hand. In one case the incarceration had lasted less than three hours, the hernia was small and had never caused disturbances, being held easily under control by a truss, and yet rupture occurred under gentle taxis by a physician.

120. **Mobilization of Chest Wall for Apical Tuberculosis.**—Friedrich discusses the present condition of the patients operated on by thoracoplastic pleuropneumolysis nearly two years ago. The aim is to release the pleura and lung in case of pulmonary tuberculosis predominantly unilateral or restricted to the upper lobe. His experience during this interval has led him to modify the technic somewhat, as also to enlarge the sphere of its application, as he describes in detail, adding the history of a patient treated by releasing the lung tissue and pleura entirely around, after removal of seven ribs. His list now includes 14 cases, and marked benefit was observed in all.

121. **Witzel's Method of Gastrostomy to Date.**—The technic for the obliquely embedded tube for a permanent opening into the stomach has been modified more or less by Witzel during the twenty years this method has been in vogue, and he here gives an illustrated description of the technic which he has found most advantageous.

124. **Flaps for Reenforcing Sutures.**—König reports two cases in which he strengthened the suture after a herniotomy by transplanting a piece of the front of the tibia, 10 cm. long in one case. In another case a defect 2 cm. long in the urethra was sutured and the suture reenforced with a segment of the saphenous vein, slit and sutured over the length of the urethra, the skin being sutured together above it; the strip of vein healed smoothly in place. The aim is similar to the soldering at the junction of pipes, providing a broad expanse of soldering material under which the sutured edges cohere firmly.

132. **Hypophysis Tumors.**—Hochenegg reports his third case of operative treatment of a tumor in the hypophysis. The success in the first two cases was not repeated in the third. This patient showed signs of acromegaly in consequence of a tumor in the hypophysis; it was reached by turning back the nose and frontal sinus and opening the sphenoidal sinuses, but part of the tumor lay inside the skull and only the accessible portion could be removed. The patient soon roused from the slight anesthesia and said that the constant pain in the vertex was gone, but sudden heart failure the next day proved fatal. No signs of meningitis were found, death being due rather to the status lymphaticus and degeneration of the myocardium. The tumor not only filled the sella turcica, but extended into the frontal lobe where it compressed the brain substance. This discovery shows that operative measures have a chance for success only for small tumors, confined to the base, and not penetrating into the brain substance. Everything about the case indicated a successful outcome, and there was even a possibility, after the extension of the tumor into the brain was discovered, that after partial removal the remainder might shrivel and thus relieve the brain of the compression as the tumor would then have room to spread downward. The operation in reality offered no chance for success and merely did harm, as the mechanical injury of the tumor tissue afforded a predisposition for suppuration which might have entailed postoperative meningitis if the patient had lived longer. There had been no decided symptoms indicating such extension of the tumor.

138. **New Principles for Treatment of Lupus Vulgaris.**—Payr gives an illustrated description of a method of treating lupus which is simple and yet seems to cure in a comparatively short time. In spite of its numerous disadvantages, excision of the lupous patch is still the most effectual method of treating lupus, but he declares that all its essential features can be obtained by undermining the patch under local anesthesia. Two parallel incisions are made through the skin down to the muscles allowing the entire skin to be separated from the muscles below to form a bridge flap. Iodoform gauze dipped in Peruvian balsam is then drawn through beneath the flap to prevent its growing down again. The lupous patch is thus medicated from above and below, and the lupus soon heals, leaving apparently normal skin except that it is inclined to be more pigmented than normal. The tint has grown constantly more and more like that of normal skin in the course of the six months his patients have been under observation. This undermining treatment has been applied in four cases to date, but only for lupus on the limbs. There is no bleeding, no need for assistance, no danger, and no defect is left, he says. The after-treatment is painless, the gauze not being changed until granulation has occurred over the whole raw surface, which is generally in about a week; the Peruvian balsam facilitates the removal of the gauze and the cure is complete in one or two months. The cosmetic result is excellent and extensive areas can be treated in this way as desired. The conditions in the face are less favorable for the undermining technic, and for this he has been experimenting with magnesium arrows, stuck through into the subcutaneous tissue, such as he uses in treatment of cavernous angioma not adapted for extirpation. The result in the lupus cases was prompt and beneficial. An opening is made with a tenotome and the little stick of magnesium is pushed from directly under the patch or into its depths. This method has been applied in only one case, but with the exception of a few isolated nodules the extensive lupus, almost covering the face, has healed, leaving merely a firm, reddish scar.

139. **A Thirty-seven Year Index.**—This general index includes in a single alphabetical series all the articles that have appeared in the *Zeitschrift* during the thirty-seven years of its existence, the index filling 230 pages in this special centennial number. The issue contains also two pages devoted to small photographs of the forty-three men who publish the journal. Wilms, in the preface, deplores the way in which the various specialties now overlap each other, especially the overlapping of journals, so that summaries of the same article appear in a number of journals, year books and weeklies. The amount of reading necessary to keep up with a science is becoming enormous, he declares, remarking that too much reading interferes with original thinking. He appeals to writers to condense more, to avoid repetition, and instead of writing a number of articles on a single subject, often in different journals, to put it all into one telling article. Much time and energy could be saved if only there were greater economy in printer's ink.

Fortschritte der Medizin, Leipsic

September 30, XXVII, No. 27, pp. 1009-1040

140 *Pathogenesis and Causal Treatment of Edema. Eschle. Commenced in No. 25.

140. **Treatment of Edema.**—Eschle declares that any one who expects to cure edema by merely drawing off the fluid or restricting the intake of water is like a person who tries to cool off the room by putting the thermometer in cold water. The water is not the cause of the disturbance; it is merely the index of it. The principal factor in the development of edema, he asserts, is the deficient tone in the skin, a weakening of the vitality of the protoplasm in general and especially in the skin and veins. Nothing permanent can be accomplished with diuretics, diaphoretics and purgatives unless the organs involved are still capable of functioning. Diaphoretic measures in particular should certainly not be applied unless

the skin is still moist. In heart disease not one organ but all try to help in maintaining compensation, and this should not be forgotten in treatment of edema. So many demands are made on the organism in daily life that it cannot rally all its forces for this purpose of reestablishing the balance, but if the patient stays in bed, the quiet, warmth and rest leave the organism free to devote all its energies to restoring the compensation balance. Restriction of all non-essential demands on the organism, application of warmth, bed rest, and administration of drugs to act as a tonic on the protoplasm—these are the essential factors in treatment of edema. Both digitalis and morphin he regards as distinguished by their tonic action on the protoplasm, and consequently he considers morphin a valuable aid in supporting the organism in its final struggle to restore the compensation balance, both by its tonic action on the tissues and the recuperation it permits by reducing the non-essential demands on the organism. Digitalis is also useful; by its regulation of tissue tone throughout the entire protoplasm areas, including the heart, it promotes diuresis indirectly. The more favorable the conditions in any region, especially in the kidneys, and the more of a secondary nature the disturbances in other organs, as in case of valvular disease, the more certain the regulating action of the digitalis. Ergot may also be useful when the main factor acting against restoration of compensation is a loss of tone in the arteries themselves, thus in cases in which digitalis fails, as, for example, in the so-called idiopathic dilatation of the heart, in aortic insufficiency and advanced arteriosclerosis. The walls of the arteries in these cases are still capable of responding to stimulation, and ergot will assist them in responding to the excessive demands made on them. If the combination of bed rest, digitalis and morphin fails to cure the edema, there is not much hope of relief from other measures. Palliative evacuation of the fluid may afford a useful temporary relief. The thirst that accompanies dropsy is a sign that, in spite of the accumulations of fluid, the tissues are still starving for water.

Policlinico, Rome

October, XVI, Medical Section, No. 10, pp. 429-476

141 Atypical Forms of Multiple Sclerosis. (Forme atipiche della sclerosi multipla.) P. Alessandrini.

142 A Case Intermediate Between the Erb-Charcot Syndrome and Amyotrophic Lateral Sclerosis. (Un caso intermedio fra la malattia d'Erb-Charcot e la sclerosi laterale amiotrofica.) A. M. Bono.

Riforma Medica, Naples

October 4, XXV, No. 40, pp. 1093-1120

143 Polymicrobian Septicemic Fevers. (Febbri e febbricole setticemiche polimorfe, IX.) G. Rummo.

144 Blood Serum in Acute Experimental Nephritis. (Il siero di sangue nelle nefriti acute sperimentali.) D. De Sandro. Commenced in No. 39.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

PROGRESS REPORT ON THE UGANDA SLEEPING SICKNESS CAMPS. From December, 1906, to Nov. 30, 1908. By A. D. P. Hodges, M.D., Principal Medical Officer, Uganda. With an Appendix on Breeding-Grounds of Glossina Palpalis. By Lieutenant A. B. Fraser, R.A.M.C., and Claude H. Marshall, M.R.C.S., L.R.C.P., October, 1909. Paper. Pp. 44. London: Sleeping Sickness Bureau, Royal Society, Burlington House, W., 1909.

THE PRINCIPLES OF PATHOLOGY. By J. George Adami, M.A., M.D., LL.D., F.R.S., Professor of Pathology in McGill University, Montreal, and Albert G. Nicholls, M.A., M.D., D.Sc., F.R.S., Assistant Professor of Pathology and Lecturer in Clinical Medicine in McGill University. Vol. II. "Systemic Pathology." Cloth. Pp. 1064, with 310 engravings and 15 plates. Price, $6 net. Philadelphia: Lea & Febiger, 1909.

DISEASES OF INFANTS AND CHILDREN. By Henry Dwight Chapin, A.M., M.D., Professor of Diseases of Children, New York Post-Graduate Medical School and Hospital, and Godfrey Roger Pisek, M.D., Professor of Diseases of Children, University of Vermont. Cloth. Pp. 591, with 179 illustrations and 11 colored plates. Price, $4.50 net. New York: William Wood & Co., 1909.

STUDIES IN RABIES. Collected Writings of Nathaniel Garland Keirle, A.M., M.D., D.Sc., Professor of Medical Jurisprudence and Emeritus Professor of Pathology, College of Physicians and Surgeons, Baltimore. With an Introduction by William H. Welch, and a biographical sketch by Harry Friedenwald. Testimonial Edition. Cloth. Pp. 374. Baltimore, 1909.

LEHRBUCH DER KRANKHEITEN DES HERZENS UND DER BLUTGEFÄSSE. Von Dr. Ernst Romberg, O. Professor und Direktor der Medizinischen Klinik in Tübingen. Second Edition, with 69 illustrations. Paper. Pp. 573. [Price, in cloth binding, 14 marks.] Stuttgart: Ferdinand Enke, 1909.

SURGICAL DIAGNOSIS. By Daniel N. Eisendrath, A.B., M.D., Professor of Surgery in the Medical Department of the University of Illinois (College of Physicians and Surgeons). Second Edition. Cloth. Pp. 855, with 574 illustrations, 25 in colors. Price, $6.50 net. Philadelphia: W. B. Saunders Co., 1909.

CLINICAL EXAMINATION OF THE URINE AND URINARY DIAGNOSIS. By J. Bergen Ogden, M.D., New York, N. Y., Medical Chemist to the Metropolitan Life Insurance Co., N. Y. Third Edition. Cloth. Pp. 427, with illustrations. Price, $3 net. Philadelphia: W. B. Saunders Co., 1909.

TUFTS MEDICAL DIET CHARTS. (Charts A. and B.) Prepared by H. D. Arnold, M.D., Professor of Clinical Medicine at Tufts Medical College, Boston. Single Charts, 5 cents; 50 Charts, $2; 500 Charts, $18; 1,000 Charts, $30. Philadelphia: W. B. Saunders Co., 1909.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION at its Thirty-second Annual Meeting, Sept. 24 to 26, 1908. Paper. Pp. 287. Official Report of the Proceedings by Grover W. Wende, M.D., Secretary.

CLINICAL STUDIES FOR NURSES. By Charlotte A. Aikens, formerly superintendent of Columbia Hospital, Pittsburg. Cloth. Pp. 510, with illustrations. Price, $2 net. Philadelphia: W. B. Saunders Co., 1909.

OTITIC CEREBELLAR ABSCESS. By Heinrich Neumann, Privat-Docent, University of Vienna. Translated by Richard Lake, F.R.C.S. Cloth. Pp. 156. Price, 4 shillings net. London: H. K. Lewis, 1909.

New Patents

Recent patents of interest to physicians:

932103. Snare curette. F. B. Black, Gilboa, Ohio.
931749. Dehydrating nitrocellulose. G. W. Gentieu, Peoria, Ill.
932386. Automatic syrup delivery for soda fountains. A. R. Gross, Catonsville, Md.
932130. Making magnesium salts and ammonia. H. B. Hunter, Norfolk, Va.
932284. System for dispensing beverages. A. D. Jones, Louisville, Ky.
932285. System for dispensing beverages. A. D. Jones, Louisville, Ky.
932143. Air pump. A. M. Kjaersgaard, Copenhagen, and C. S. J. Wiese, Odense, Denmark.
931791. Scarificator. W. Niergarth, Pekin, Ill.
932174. Sanitary cuspidor. D. R. Reefe, Jacksonville, Fla.
932177. Orthopedic device. L. Roth, New York.
931803. Invalid chair. D. Rupley, South Whitley, Ind.
932066. Surgical stocking or casing. F. W. Smith, Union, Ohio.
932344. Holder for nursing bottles. C. Starbard, Worcester, Mass.
931817. Disinfecting apparatus. J. R. Van Dyne, Sedalia, Mo.
932074. Truss. A. Wakeman, Syracuse, N. Y.
931908. Invalid's foot rest for beds. M. Weld, New York.
932442. Bed-pan. M. F. Cagle, Knoxville, Tenn.
932604. Atomizer. T. A. De Vilbiss, Toledo, Ohio.
932775. Electric therapeutic instrument. C. W. Gaston, Fresno, Cal.
932780. Massaging and exercising implement. C. J. Hero, Milwaukee, Wis.
932479. Support for stretchers. J. Linxweiler, Bad Kissingen, Germany.
932635. Apparatus for producing formaldehyde. W. B. McLaughlin, New York.
932898. Producing ozone. J. F. Place, Glen Ridge, N. J.
932647. Antiseptic composition containing phenyl acetate. N. Sulzberger, New York.
932515. Respiratory apparatus. J. Tissot, Paris, France.
932527. Treating vegetable albumen and animal casein and the product therefrom. F. G. Wiechmann, New York.
933360. Inhaler. E. Carabias, Mexico, Mex.
933423. Bunion guard. W. H. De Ford, Pittsburg, Pa.
933537. Holder for absorbent cotton. W. J. Durant, Spencer, Iowa.
933170. Operating table for osteopathic treatment. W. O. Galbreath, Philadelphia, Pa.
933462. Apparatus for separating oxygen from air. J. E. Johnson, Jr., Long Dale, Va.
933323. Invalid bed. F. W. Mitchell. Valparaiso, Ind.
933107. Manufacturing acetone. A. L. A. Pages and R. P. T. Duchemin, Paris, France.
933578. Syringe nozzle. J. W. Perkins, Everett, Mass.
9334.0. Syringe. C. Remhof, Brooklyn, N. Y.
933398. Syringe. F. A. Stahl, New York.
934130. Truss. G. W. Bell, Kansas City, Mo.
934133. Making milk for infants. P. Bergell, Berlin, Germany.
934037. Valve-fitting for soda-water apparatus, P. Bunin, New York.
933844. Stereoscopic appliance. G. A. H. Kellner, Rochester, N. Y.
934190. Sterilizing apparatus. E. Kronman, New York.
933913. Surgical bandage. J. Nord and N. T. Hillen, Arnheim, Netherland.
934349. Continuous juice extraction by diffusion. K. Philipp, Madgeburg, Germany.
933791. Physician's hypodermic syringe case. S. Sinkler, Chicago, Ill.
934368. Machine for cutting and folding sanitary-shield packages. A. Stewart, Pittsburg, Pa.
934240. Surgical appliance. H. Tunnessen, Hazelton, Pa.
934662. Massage-vibrator. E. S. Faison, New York.
934916. Stereoscopic telemeter with traveling mark. C. von Hofe, Jena, Germany.
934917. Septic tank. A. W. Huhsman, Staunton, Ill.
934625. Abdominal bandage. A. Petrel, Buenos Ayres, Argentina.
934844. Disinfectant. H. Schneider, Wilmersdorf, near Berlin, Germany.
934486. Holder for surgical instruments. T. S. Walling, Passiac, N. J.